

NCIR Interoperability

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NCIR Interoperability Onboarding Process

Introduction

This document outlines expectations and steps in the onboarding process for organizations to submit data to the North Carolina Immunization Registry (NCIR). The onboarding process is divided into the following phases –

- Provider Registration
- Technical Readiness Preparation
- Business Readiness Preparation
- Production Deployment
- Postproduction Support

Key Stakeholders

- Provider organization personnel
 - The provider organization should, at a minimum, include personnel familiar with immunizations and the day-to-day use of the EHR system. The provider organization must have a primary, and back-up, point of contact for onboarding process.
- EHR vendor or health system technical team – provider technical team
 - The team responsible for analyzing the requirements, implementing the interface, testing and configuring the interface.
- North Carolina Immunization Program (NCIP)
 - NCIR
 - North Carolina Immunization Registry Team (IIS Team)
 - FSU
 - North Carolina Immunization Program Consultants or Field Service Unit

Stakeholder Roles and Responsibilities

This section describes the stakeholder's roles and responsibilities in the NCIR onboarding process. The NCIR would like each entity to have a clear understanding of their roles and responsibilities to complete the onboarding process in a timely manner.

Role: Provider / Organization	
DURING ONBOARDING	AFTER ONBOARDING
<ul style="list-style-type: none"> • Completes the registration to submit data electronically for onboarding consideration with the NCIR. • Identify the primary resource to work with technical team / EHR vendor and NCIR in all the phases of onboarding process and attend the meetings and conference calls as appropriate. • Works with technical team / EHR vendor: <ul style="list-style-type: none"> ○ Submits request for NCIR Web Services Connectivity Details. ○ Completed / Signed Confidentiality Agreement. • Work with the technical team/ EHR vendor to prove Technical Readiness. • Work with EHR vendor or provider technical staff to resolve issues with the interface or submitted messages. • Reviews, completes, and submits a signed MOU. • Prepares clinical staff to establish a training plan. • Executes clinical training / workflow training: <ul style="list-style-type: none"> ○ Executes clinical testing. • Collaborates in determining implementation date in NCIR Production: <ul style="list-style-type: none"> ○ Finalize & schedule “Go Live” plan. 	<ul style="list-style-type: none"> • Verify initial set up is correct and that data from the EHR is successfully populating the production IIS. • Identify and resolve issues caused by improper workflows or poor data entry that adversely impact data quality. • Collaborate with vendor / health system technical team, monitors ACKs in live interoperability connection daily for: <ul style="list-style-type: none"> ○ Errors ○ Warnings ○ Duplicate Charts / Patient Names ○ Owned / Non-Deducting Report ○ Identify changes in volume or quality of messages, or anything else that raises red flags about the interface. • Immediately report issues to the IIS and EHR contacts for assistance in troubleshooting. • Correct data entry errors and establish appropriate policies/procedures to address issues with workflow and data quality. Train staff as needed. • Communicate with IIS about any system changes/updates or outages that may impact existing interfaces. • Provide updated contact information for staff changes at either the provider or EHR vendor. • Notify the IIS of any mergers, acquisitions, or closures. • For Multi-Site organization: <ul style="list-style-type: none"> ○ Participates in discussion(s) regarding pilot location and determining the selection of the “Next Up” provider / organization

Role: EHR Vendor / Health System Technical Team	
DURING ONBOARDING	AFTER ONBOARDING
<ul style="list-style-type: none"> Identify primary resource to work with NCIR and provider organization. Discuss interface requirement and Technical Readiness Prep Overview. Discuss and select preferred connectivity method with provider: <ul style="list-style-type: none"> Collaborate with provider to complete Connectivity Request Form and send it to NCIR. Completes necessary NCIR agreement to get access to NCIR webservice. Be an active participant in all elements of the onboarding process and host weekly meetings and maintain action items. Execute connectivity testing and technical testing by modifying the EHR and/or user interface to meet all NCIR HL7 specifications. Submit Technical Readiness Checklist & test execution results: <ul style="list-style-type: none"> If Technical Readiness is not achieved – <ul style="list-style-type: none"> Pursue countermeasures to correct issues. Participate in Kick Off meeting with stakeholders to define onboarding plan: <ul style="list-style-type: none"> Collaborate with NCIR and provider in determining implementation date in NCIR Production. Work with NCIR to identify, troubleshoot and quickly resolve any issues with the interface or submitted messages. Help NCIR manage expectations about process, milestones and timelines with the provider. Assist provider with proper configuration of their EHR. Train provider on interface functionality and error/warning review in the EHR system. 	<ul style="list-style-type: none"> Assist providers with proper configuration of their EHR. Train providers on how to monitor their interface (performance and ACKs) and resolve issues or seek assistance as needed. Facilitate transition from the onboarding/implementation team to the long-term support team. Assist with maintaining the connection and monitoring the interface for performance and errors. Provide technical support to the provider and resolve any technical issues. Maintain conformance with HL7 transport and messaging standards and notify NCIR when any updates are made to the interface. Notify providers (and possibly IIS) of any changes or outages that may impact existing interfaces. As, and when NCIR upgrades the interface per CDC guidelines, EHR vendor or provider is responsible in upgrading the system. For Multi-Site organization, participates in discussions regarding pilot location and determining the selection of the sites for the Bulk onboarding. <p>Provides details to NCIR on provider's system configuration, version and contract details, prioritizing the providers for bulk onboard.</p>

Role: NCIR – Immunization Information System Team	
DURING ONBOARDING	AFTER ONBOARDING
<ul style="list-style-type: none"> Validates provider's registration: <ul style="list-style-type: none"> Approves provider for onboarding. Notifies provider if participation criteria are not met. Initiates the onboarding process. Secures signed agreements from EHR technical team. Provides NCIR Onboarding Tool Kit and assists provider and EHR vendor/ health system technical team to prove the technical readiness. Provides NCIR Web Services set up documents and credentials to EHR technical team: <ul style="list-style-type: none"> For testing purposes: Training environment For Go Live: PROD environment Validates technical readiness of provider system. Conducts clinical testing for initial provider and validates the result. Participates in Kick Off meeting with stakeholders to define onboarding plan. Collaborates with provider and EHR vendor/health system technical team in determining production roll out date. For Multi-Site organization: <ul style="list-style-type: none"> Participates in discussion(s) regarding initial provider location and determining the selection of the "Next Up" provider/organization. Review/revise onboarding plan for other sites. 	<ul style="list-style-type: none"> Provide continued communication and coordination. Monitor data feeds for errors. Notify providers of any changes or outages that may impact existing interfaces. Inform provider or health system technical team: <ul style="list-style-type: none"> System upgrade Certificate changes New vaccines

Role: NCIP – Field Staff Unit – Program Consultants	
DURING ONBOARDING	AFTER ONBOARDING
<ul style="list-style-type: none"> Reviews providers’ programmatic readiness. Assists providers with program compliance issue(s). Prepares clinical staff to establish a training plan. Collaborates in determining production roll out date. Contributes to Go Live and Post Go Live support (if needed). For Multi-Site organization: <ul style="list-style-type: none"> Participates in discussions regarding bulk onboarding. Assists with defining onboarding plan. 	<ul style="list-style-type: none"> Monitors live interoperability submission (if needed). Helps provider to resolve owned non-deducting issue.

Onboarding Phases

1. Provider Registration

A. Provider Registration

- The provider registers their intent to submit immunization data via electronic interface through the registration portal – <https://ncdphmeaningfuluse.org/>
- The provider can refer to the Meaningful Use registration user guide for the details on the registration process and the information needed for the NCIR MU registration – https://ncdphmeaningfuluse.org/NC_MURegistrationofIntent_UserGuide.pdf

B. Provider Registration Communication

- Once registration is successfully completed, the provider will receive a system generated “Registration completed” notification through the portal. The notification is proof of registration and providers must retain the copy for the attestation purposes if applicable.
- The notification email will provide the details regarding the next steps as well.

C. Registration Verification and Provider Notification

- The NCIR will verify the registration data.
- EP/EH will receive the notification if participation criteria is not met.

2. Technical Readiness

**** The NCIR strongly recommends provider technical team to thoroughly review the Onboarding Toolkit and the steps involved in the Technical Readiness phase. The provider must contact NCIR (NCIRtechnicalreadiness@dhhs.nc.gov) to initiate the onboarding process only after Technical Readiness is proved by their provider technical team.**

A. Onboarding Toolkit Review

The Onboarding toolkit is available on the NCIR website for provider and technical team review –

<https://www.immunize.nc.gov/providers/ncirpromotinginteroperability.htm>

Onboarding toolkit includes the following details:

- NCIR Interoperability Onboarding Process – The document explains the phases and the process involved in each phase of the onboarding process.
- Onboarding Agreements:
 - Confidentiality Agreement and Web Service Connectivity Request –
 - The document contains the EHR Information sheet and confidentiality agreement to access the NCIR Training environment. The document must be completed by the provider and provider technical team.
- NCIR Technical Specifications:
 - North Carolina Local Implementation Guide (NCLIG) –
 - The guide provides the specific instructions and format regarding reporting Immunization data to the registry.
<https://www.immunize.nc.gov/providers/ncirpromotinginteroperability.htm>
 - The guide is specific to the NC Immunization Registry, and it finalizes all implementation decisions and defines exactly what the NCIR will and will not accept. The guide is developed in accordance with the standards set in –

- Centers for Disease Control HL7 Implementation Guide for Immunization Messaging (CDC IG) – <http://www.cdc.gov/vaccines/programs/iis/technical-guidance/hl7.html>
- Health Level Seven – <http://www.hl7.org>
- The NCLIG is intended for provider technical team that must implement these guidelines. The reader of this Local IG should have a solid HL7 foundation and be very familiar with the contents of the CDC IG.
- The NCLIG is designed to mirror the organization and flow of the CDC IG as well as adhere to the standards in the CDC IG.

In cases where differences exist between the NCLIG and the CDC IG, the differences are clearly defined in the appropriate sections of the NCLIG.

- Data Elements and NCLIG Reference – The document serves as the index to the North Carolina Local Implementation Guide. The NCLIG

audience can reference this for:

- The list of the required data elements with HL7 field details.
- The NCLIG page reference details for each data fields.
- Error/Warning Details – A real time response or acknowledgement will be sent back to the EHR system for each message sent to the NCIR. The response message may contain an error or warning based on the validation in the NCIR.
 - Providers need a method to capture and display the acknowledgement (ACK messages) returned from the NCIR (in response to VXU messages). The NCIR suggests that EHRs or health systems make this available in real time and asks the user to review before closing the chart for the patient. Doing so is also a best practice and avoids inventory accountability errors and other errors needing work later.
 - To help the provider community and their technical team, the NCIR has provided additional documents on errors/warnings. The Error/Warning documents provide the following information for each message/warning:
 - Error/Warning type.
 - Data field location for which the error or warning was triggered.
 - Explanation of the error/warning.
 - How to fix the error/warning.
 - Error/Warning documents – list of warnings that could be triggered for update or query message transactions:
 - VXU Warning and Error Information.
 - QBP Warning and Error Information.

- Technical testing documents –

**** This section is intended for the provider technical team. The provider technical team must thoroughly review each document listed here.**

- Connectivity Request Form – The provider technical team must fill out the Connectivity Request Form and send it to the NCIR. For more details, refer to the Technical Readiness preparation section.
- NCIR Testing Manual – This document outlines the test case scenarios and test expectations.
 - NCIR Technical Readiness Checklist – This document summarizes the technical readiness criteria in compliance NCIR specifications.

B. Technical Readiness Preparation

****The EHR or health system technical team must ensure that their software meets all required specifications for interfacing with the NCIR. The provider technical team must reference the documents listed in NCIR Technical Specifications sections for interface construction.**

- NIST Testing –
 - The provider technical team can self-evaluate the interface readiness through NIST Testing tool – <https://hl7v2-iz-r1.5-testing.nist.gov/iztool/#/home>
 - The provider technical team can utilize the test case documentations available on NIST Immunization Test Suite – <https://hl7v2-iz-r1.5-testing.nist.gov/iztool/#/doc>
- Connectivity Testing –
 - The provider technical team will request the details for the NCIR Web Service set up and credentials by sending Web Service Connectivity Request Form to NCIRtechnicalreadiness@dhhs.nc.gov.
 - The preferred connectivity method details should be provided in the form:
 - NCIR Direct Connection
 - Through HIEA
 - The EHR personnel must complete the NCIR Confidentiality Agreement in the same document to gain access to the NCIR Training environment. After receiving the request form from the provider technical team, the NCIR will set up the test Organization in the NCIR Training environment and will send the following details to provider technical team to connect with NCIR for end-to-end interface testing:
 - Web Service Connectivity Details
 - Credentials

- MSH-4 and RXA-11
- The provider technical team will connect with the NCIR Training environment and conducts connectivity testing.

C. Technical Testing Execution

- The provider technical team will build / modify the EHR System to accommodate the interoperability requirements (as needed).
- The provider technical team will execute test scenarios provided in the Technical Testing documents to accomplish Technical Testing.
- The provider technical team should make sure to enter the exact data provided in the Technical testing manual or test data spreadsheet. The NCIR test case manual includes the test data for most of the scenarios, the provider technical team can use different test data only in the cases where test data is not provided.
- The provider technical team must follow the steps provided in Technical Testing manual. Also test results must be captured per instruction in the manual.

D. Test Result Validation by the provider technical team

- The provider technical team must self-evaluate the test results before contacting the NCIR.
- The provider technical team should contact the NCIR only when all the tasks on the NCIR Technical Readiness Checklist are completed.
- The provider technical team must send the documented test results and NCIR Technical Readiness Checklist to NCIR staff at NCIRtechnicalreadiness@dhhs.nc.gov , for validation.

E. Technical Readiness Validation by NCIR

- The NCIR will review all technical documents received from the provider technical team to evaluate the provider's Technical Readiness to determine if the technical specifications are met.
- If any compliance issues are found during the validation, NCIR will notify provider technical team about the variations.
- If compliance issue(s) are found, EHR or health system technical Team must -
 - Pursue countermeasures to correct issues.
 - Modify the EHR to accommodate the interoperability requirements (as needed).
 - Resubmit Technical Readiness Checklist and Test Execution Results to NCIRtechnicalreadiness@dhhs.nc.gov .
 - The NCIR revalidates the test execution.
- If needed, during a virtual meeting, the EHR Technical Team will demonstrate the workflow of the Provider.

F. Technical Readiness Approval / Technical Testing Sign Off

- If the provider technical team meets all required technical specifications, the NCIR notifies the provider technical team and provider.
- Technical Readiness must be proved before the NCIR approves entrance into next steps.

3. Business Readiness Preparation

A. Initial Site Selection

- The NCIR will select the initial provider organization for onboarding. The provider organization is also involved in the selection process.
- The NCIR considers the following criteria along with other criteria while selecting the initial provider organization:
 - Number of patients seen.
 - Immunization volume.
 - Program compliance or inventory accountability.

Note: Program compliance evaluation is not applicable for non-VFC providers.

B. Programmatic Readiness Review

- For VFC providers, Immunization Program team reviews Inventory management and program compliance of Provider.
- If Programmatic Readiness is not achieved:
 - NCIP- FSU will communicate issues to provider.
 - pursue countermeasures to correct issues.
 - the NCIR will provide additional training to provider on inventory management.

Note: Program compliance evaluation is not applicable for non-VFC providers.

C. Clinical Testing Kick off with Stakeholders

- Initial site will receive invitation for onboarding through the registration portal.
- The Kickoff meeting will be conducted with all the stakeholders – NCIR, EHR and provider.

- The NCIP Field Services Unit and NCIR will contact the selected provider to review process expectations, understand the organization's onboarding criteria, and define a plan for the initial provider organization.
- The NCIP Field Services Unit will review all programmatic requirements to determine if the organization is ready to move to the next phase.
- The NCIR will collaborate with provider and vendor or health system technical team and a clearly defined onboarding plan will be established including reviewing/providing a project plan document:
 - Define initial onboarding plan at initial provider location.
 - Specify start dates.
 - Designate POCs (Points of Contact).
 - The provider will sign the NCIR Memorandum of Understanding (MOU) document and will send the signed copy of the MOU to NCIR staff.
 - MOU will establish a mutual understanding that the parties will work together toward the goals listed in the document.
 - MOU will be considered null and void, if at any time the provider or EHR stops the onboarding process. At that time, the provider in the onboarding process is inactivated from testing and will be added back into the "Waiting for Onboarding" queue.

D. Clinical Training and Testing

- Using the NCIR Online Clinical Training Material, the NCIP and the provider technical team will prepare the clinical staff using the NCIR Interoperability Training website and documentation.
- The clinical staff will complete the clinical testing scenarios (connected to the NCIR Training environment)
 - Update Interface Testing (VXU Z22/ ACK Z23)
 - Query Interface Testing (QBP Z44/ RSP Z42 or QBP Z34 / Z32, Z33) s
- The NCIR Team will analyze the results of clinical testing.
- If Clinical Testing is not successful:
 - NCIR will communicate failures of testing results.
 - Provider will pursue countermeasures to correct failures.

- For health system-based onboarding the clinical testing is conducted only for the initial provider organization site. In specific scenarios, NCIR may recommend clinical testing for N+1 site(s), as well. The scenarios are listed under bulk onboarding section.

E. Business Readiness Approval

- Once all data and files have been submitted, the NCIR Team evaluates the provider's clinical/business readiness.
- Within this assessment, the NCIR team approves readiness for production deployment based on meeting checklist criteria.
- When the provider/organization has been approved, an approval communication is sent to key stakeholders/designated POCs.

F. Evaluate Provider Compliance (VFC Only) for Bulk Onboarding

- The NCIP will verify that the identified provider(s) is/are within compliance of all federal, state, Medicaid and Medicare regulations.
- If the provider meets all criteria, they will be approved for bulk onboarding after the initial provider organization has gone live.

4. Production Deployment

A. Production Planning

- The NCIR and the provider discuss as well as finalize the following:
 - Onboarding plan guidelines to determine an implementation date for the provider to start sending live data to the NCIR Production environment.
 - Onboarding Project Plan to demonstrate approval for Go Live.
- The Regional Immunization Consultant (RIC) assists provider with following items:
 - Reconcile inventory and outstanding orders.
 - Advise clinicians on interpreting warnings.
 - Assist with resolving issues.
- The NCIR team provides Production credentials to establish the connectivity between NCIR and provider production systems.
 - Connectivity testing conducted.

B. "Go Live" for Initial Site

- On the pre-determined date, the provider/organization initiates a live interoperability connection with the NCIR Production environment.
- The NCIR monitors the live data transmissions for 2 weeks, unless issues are detected which require further monitoring.
- The NCIR updates the provider status to "Ongoing Submission Achieved" in the registration portal and provider receives the notification.

C. Bulk Onboarding "N+1" Deployment

- Once the notification. /provider has a site in Production, discussions regarding additional sites (N+1) can begin. Bulk onboarding criterion for N+1 onboarding:
 - The organization has successfully completed onboarding of at least one provider site.
 - The organization cannot have any variations in EHR type/version among the subsequent sites.
 - The organization has demonstrated adequate oversight and correction of error warnings at the initially onboarded site(s) for at least two weeks.
 - The organization has staff designated to provide training to key employees at each of the subsequent sites and completes the training prior to scheduling the deployment dates.
 - The organization must maintain an active support contract with current EHR partner/vendor.
 - For VFC provider sites only: Each subsequent site must be approved for program compliance by the NCIP.

*The number of provider sites to onboard at one time must be mutually agreed upon by NCIP and the organization.

- The NCIR may recommend N+1 site(s) to execute clinical testing on specific scenarios as follows -
 - If EHR has variations in EHR type/versions among the subsequent sites.
 - If organization has demonstrated inadequate oversight and correction of error warnings at the initially onboarded site(s).
 - If there is any upgrade or update to EHR interface functionalities.
 - If both vendor/health system technical team and the NCIR team see a need for the clinical testing to make sure interoperability is working as expected.
- The provider/organization initiates a live interoperability connection with the NCIR.

- The NCIR has established a two-week probationary period during which production submissions are closely monitored to ensure provider submissions are successful and have no significant issues. We will confirm that data is coming in from all sites that are part of the interface for a multi-facility organization. The NCIR, EHR, and provider onboarding partners should continue to monitor all of the elements reviewed during the various testing stages in the production environment during this critical probationary stage.

D. Post-Production

- The NCIR and NCIP –
 - Monitors live interoperability transactions
 - Assists and responds to technical service needs of the provider/organization

NCIR Abbreviations and Acronyms

Abbreviation/Acronym	Definition
ACK	HL7 Message Profile – Message Acknowledgement (VXU Messages)
CDC	Centers for Disease Control and Prevention
CEHRT	Certified Electronic Health Record Technology
CVX	CDC Code for Vaccine Administered
DOB	Date of Birth
DX	Data Exchange
EHR	Electronic Health Record
FSU	Field Service Unit
HIEA	Health Information Exchange Authority
HL7	Health Level Seven International
ID	Identification

Abbreviation/Acronym	Definition
IG	Implementation Guide
IIS	Immunization Information System
MOU	Memorandum of Understanding
MSH	HL7 Messaging Segment
MU	Meaningful Use
NCIR	North Carolina Immunization Registry (Immunization Information System Team)
NCIP	North Carolina Immunization Program (Field Service Unit Team)
NDC	National Drug Code
NCLIG	North Carolina Local Implementation Guide
NIST	National Institute of Standards and Technology
POC	Point of Contact(s)
QBP	HL7 Messaging Profile – Request Immunization History
R	Release
RIC	Regional Immunization Consultant
RXA	HL7 Messaging Segment – Pharmacy / Treatment Administration Segment
RSP	HL7 Message Profile – Message Response (QBP Messages)
VFC	Vaccines for Children Program
VXU	HL7 Message Profile – HL7 Unsolicited Vaccination Record Update Message

NCLIG Reference Document

VXU – MSH Segment

Message Header Segment

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
MSH-1	Field Separator	Pg. 26: Table 5-4 Pg. 28: Field Definition
MSH-2	Encoding Characters	Pg. 26: Table 5-4 Pg. 29: Field Definition
MSH-3	Sending Application	Pg. 26: Table 5-4 Pg. 29: Field Definition
MSH-4	Sending Facility	Pg. 26: Table 5-4 Pg. 30: Field Definition
MSH-6	Receiving Facility	Pg. 26: Table 5-4 Pg. 31: Field Definition
MSH-7	Date/Time of Message	Pg. 26: Table 5-4 Pg. 32: Field Definition
MSH-9	Message Type	Pg. 27: Table 5-4 Pp. 32-33: Field Definition Pg. 110: Appendix A: Code Tables – Event Type (Table 0003) Pg. 111: Appendix A: Code Tables – Message Type (Table 0076)
MSH-10	Message Control ID	Pg. 27: Table 5-4 Pg. 33: Field Definition
MSH-11	Processing ID	Pg. 27: Table 5-4 Pg. 34: Field Definition Pg. 111: Appendix A: Code Tables – Processing ID (Table 0103)

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
MSH-12	Version ID	Pg. 27: Table 5-4 Pp. 34-35: Field Definition Pg. 111: Appendix A: Code Tables – Version ID (Table 0104)
MSH-15	Accept Acknowledgment Type	Pg. 27: Table 5-4 Pg. 36: Field Definition Pg. 110: Appendix A: Code Tables – Acknowledgement Code (Table 0008) Pg. 111: Appendix A: Code Tables – Accept/Application Acknowledgement Conditions (Table 0155)
MSH-16	Application Acknowledgment Type	Pg. 27: Table 5-4 Pp. 36-37: Field Definition Pg. 111: Appendix A: Code Tables – Acknowledgement Code (Table 0008) Pg. 112: Appendix A: Code Tables – Accept/Application Acknowledgement Conditions (Table 0155)
MSH-21	Message Profile Identifier	Pg. 27: Table 5-4 Pp. 38-39: Field Definition Pg. 110: Appendix A: Code Tables – Immunization Profile Identifiers (Table CDCPHINVS)
MSH-22	Sending Responsible Organization	Pg. 28: Table 5-4 Pg. 39: Field Definition
MSH-23	Receiving Responsible Organization	Pg. 28: Table 5-4 Pg. 40: Field Definition

VXU – PID Segment

Patient Identifier Segment

HL7 Field	HL7 Element Name		NCLIG Reference Page Numbers
PID-3	Patient Identifier List		Pg. 74: Table 5-9 Pp. 78-79: Field Definition Pg. 120: Appendix A: Code Tables – Assigning Authority (Table 0363)
	NCIR Client ID (SR)		Pg. 74: Table 5-9 Pp. 78-79: Field Definition
	Chart Number or Organization Identifier for Client [Identifier Type Code – PI]	Sub-Components 1: Chart Number	Pg. 74: Table 5-9 Pp. 78-79: Field Definition Pg. 112: Appendix A: Code Tables – Identifier Type (Table 0203)
		Identifier Type = PI	
PID-5	Patient Name	Last, First and Middle Name (PID-5.1-3)	Pg. 74: Table 5-9 Pg. 79: Field Definition
		Name Type Code (PID-5.7)	Pg. 74: Table 5-9 Pg. 79: Field Definition Pg. 112: Appendix A: Code Tables – Name Type (Table 0200)
PID-6	Mother's Maiden Last and First Name		Pg. 74: Table 5-9 Pg. 79-80: Field Definition
PID-7	Date of Birth		Pg. 74: Table 5-9 Pg. 80: Field Definition
PID-8	Gender		Pg. 74: Table 5-9 Pp. 80-81: Field Definition Pg. 110: Appendix A: Code Tables – Sex (Table 0001)

HL7 Field	HL7 Element Name		NCLIG Reference Page Numbers
PID-10	Race (Test Various Values)		Pg. 75: Table 5-9 Pg. 81: Field Definition Pg. 110: Appendix A: Code Tables – Race (Table 0005/CDCREC)
PID-11	Patient Address	Street Address (PID-11)	Pg. 75: Table 5-9 Pp. 81-82: Field Definition
		City (PID-11)	Pg. 75: Table 5-9 Pp. 81-82: Field Definition
		State (PID-11.4)	Pg. 75: Table 5-9 Pp. 81-82: Field Definition
		County (PID-11.9)	Pg. 75: Table 5-9 Pp. 81-82: Field Definition Pp. 114-116: Appendix A: Code Tables – County (North Carolina Only) (Table 0289)
		Zip Code (PID-11.5)	Pg. 75: Table 5-9 Pp. 81-82: Field Definition
		Address Type (PID-11.7: Use “M”)	Pg. 75: Table 5-9 Pp. 81-82: Field Definition Pg. 112: Appendix A: Code Tables – Address Type (Table 0190)
PID-13	Patient Phone Number	Telecom Use Code (PID-13.2: Use “PRN”)	Pg. 75: Table 5-9 Pp. 82-83: Field Definition Pg. 112: Appendix A: Code Tables – Telecom Use Code (Table 0201)
		Area Code (PID-13.6)	Pg. 75: Table 5-9 Pp. 82-83: Field Definition
		Local Number (PID13.7)	Pg. 75: Table 5-9 Patient Identifier Segment (PID) Pp. 82-83: Field Definition
PID-22	Ethnic Group		Pg. 76: Table 5-9 Pg. 84: Field Definition Pg. 112: Appendix A: Code Tables – Ethnic Group (Table 0189/CDCREC)

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
PID-24	Multiple Birth Indicator	Pg. 76: Table 5-9 Pp. 84-85: Field Definition
PID-25	Multiple Birth Order	Pg. 76: Table 5-9 Pg. 85: Field Definition
PID-29	Death Date	Pg. 76: Table 5-9 Pg. 86: Field Definition
PID-30	Death Indicator	Pg. 76: Table 5-9 Pp. 86-87: Field Definition

VXU – PD1 Segment

Patient Demographic Segment

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
PD1-11	Publicity Code	Pg. 70: Table 5-8 Pp. 71-72: Field Definition Pg. 112: Appendix A: Code Tables – Publicity Code (Table 0215)
PD1-12	Protection Indicator	Pg. 70: Table 5-8 Pg. 72: Field Definition Pg. 111: Appendix A: Code Tables – Yes/No Indicator (Table 0136)
PD1-16	Immunization Registry Status	Pg. 71: Table 5-8 Pp. 72-73: Field Definition Pg. 121: Appendix A: Code Tables – Immunization Registry Status (Table 0441)

VXU – NK1 Segment

Next of Kin Segment

HL7 Field	HL7 Element Name		NCLIG Reference Page Numbers
NK1-1	Set ID – NK1		Pg. 41: Table 5-5 Pg. 44: Field Definition
NK1-2	Responsible Person First and Last Name	Last, First and Middle Name (NK1-2.1-3)	Pg. 41: Table 5-5 Pp. 44-45: Field Definition
		Name Type (NK1-2.7)	Pg. 41: Table 5-5 Pp. 44-45: Field Definition Pg. 112: Appendix A: Code Tables – Name Type (Table 0200)
NK1-3	Relationship to Client		Pg. 41: Table 5-5 Pg. 45: Field Definition Pp. 110-111: Appendix A: Code Tables – Relationship (Table 0063)
NK1-4	Responsible Person's Address	Street Address	Pg. 41: Table 5-5 Pp. 45-46: Field Definition
		City	Pg. 41: Table 5-5 Pp. 45-46: Field Definition
		State	Pg. 41: Table 5-5 Pp. 45-46: Field Definition
		County	Pg. 41: Table 5-5 Pp. 45-46: Field Definition Pp. 114-116: Appendix A: Code Tables – County (North Carolina Only) (Table 0289)
		Zip Code	Pg. 41: Table 5-5 Pp. 45-46: Field Definition

HL7 Field	HL7 Element Name		NCLIG Reference Page Numbers
		Address Type (Use "M")	Pg. 41: Table 5-5 Pp. 45-46: Field Definition Pg. 112: Appendix A: Code Tables – Address Type (Table 0190)
NK1-5	Responsible Person's Phone Number	Telecom Use Code (NK1-5.2: Use "PRN")	Pg. 41: Table 5-5 Pp. 46-47: Field Definition Pg. 112: Appendix A: Code Tables – Telecom Use Code (Table 0201)
		Area Code (NK1-5.5)	Pg. 41: Table 5-5 Pp. 46-47: Field Definition
		Local Number (NK1-5.6)	Pg. 41: Table 5-5 Pp. 46-47: Field Definition
NK1-20	Responsible Person's Primary Language		Pg. 42: Table 5-5 Pp. 47-48: Field Definition Pg. 119: Appendix A: Code Tables – Primary Language (Table 0296)
NK1-22	Responsible Person Accepts Rem/Recall Notices or Not		Pg. 42: Table 5-5 Pg. 48: Field Definition

Administered VXU – OBX Segment

Observation Result Segment

Note: OBX segments are used for providing observations and are used to provide an array of immunization related information. Refer to NCLIG for additional details and document below after verifying/testing different types of OBX segments relevant to the NCIR.

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
OBX-1	Set ID-OBX-1	Pg. 52: Table 5-6 Pg. 54: Field Definition
OBX-2	Value Type	Pg. 52: Table 5-6 Pg. 54: Field Definition Pg. 111: Appendix A: Code Tables – Value Type (Table 0125)
OBX-3	Observation Identifier	Pg. 52: Table 5-6 Pp. 55-58: Field Definition Pp. 120-121: Appendix A: Code Tables – GDTI (Table 0396/CDCPHINVS)
OBX-3/OBX-5	Eligibility Code	Pg. 52: Table 5-6 Pg. 55-58: Field Definition Pg. 111: Appendix A: Code Tables – Eligibility Code (Table 0064)
OBX-3/OBX-5	Funding Code	Pg. 52: Table 5-6 Pg. 55-89: Field Definition Pg. 125: Appendix A: Code Tables – Immunization Funding Source (OBX-3 LOINC Code: 30963-3) (Table NIP003/CDCPHINVS)
OBX-3/OBX-5	Client Comments	Pg. 52: Table 5-6 Pg. 55-58: Field Definition Pg. 125-126: Appendix A: Code Tables – Contraindications, Precautions (OBX-3 LOINC Code: 30945-0), (OBX-3 LOINC Code: 75505-8), (OBX-3 LOINC Code: 59784-9), (OBX-3 LOINC Code: 59785-6), Reaction Codes (OBX-3 LOINC Code: 31044-1) (Table NIP004/L/SCT/CDCPHINVS/NCIR001)

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
OBX-3/OBX-5	Contraindication	Pg. 52: Table 5-6 Pg. 55-58: Field Definition Pg. 125-126: Appendix A: Code Tables – Contraindications, Precautions (OBX-3 LOINC Code: 30945-0), (OBX-3 LOINC Code: 75505-8), (OBX-3 LOINC Code: 59784-9), (OBX-3 LOINC Code: 59785-6), Reaction Codes (OBX-3 LOINC Code: 31044-1) (Table NIP004/L/SCT/CDCPHINVS/NCIR001)
OBX-3/OBX-5	VIS Presented Date	Pg. 52: Table 5-6 Pg. 55-58: Field Definition
OBX-3/OBX-5	VIS Published Date	Pg. 52: Table 5-6 Pg. 55-58: Field Definition
OBX-5	Observation Value	Pg. 53: Table 5-6 Pg. 59-61: Field Definition
OBX-11	Observation Result Status	Pg. 52: Table 5-6 Pg. 61: Field Definition Pg. 111: Appendix A: Code Tables – Observation Result Status Codes (Table 0085)
OBX-14	Date/Time Observation	Pg. 52: Table 5-6 Pg. 61-62: Field Definition
OBX-17	Observation Method	Pg. 53: Table 5-6 Pg. 62: Field Definition

Administered VXU – RXA Segment

Pharmacy/Treatment Administration Segment for Owned Doses

An owned dose is a dose administered by your organization. This can be a supplied vaccine or privately purchased vaccine. **Note:** Refusals are sent as RXAs.

HL7 Field	HL7 Element Name		NCLIG Reference Page Numbers
RXA-1	Give Sub-ID Counter		Pg. 89: Table 5-10 Pg. 91: Field Definition
RXA-2	Administration Sub-ID Counter		Pg. 89: Table 5-10 Pp. 91-92: Field Definition
RXA-3	Dose Date		Pg. 89: Table 5-10 Pg. 92: Field Definition
RXA-5	Administered Code	CVX Code (RXA-5: First Triplet)	Pg. 89: Table 5-10 Pp. 93-94: Field Definition Pp. 116-119: Appendix A: Code Tables – Vaccines Administered (CVX Codes) (Table 0292) Pg. 143-157: CVX + VTN RXA-5 for decrementing inventory
		NCIR Tradename Code/NDC (RXA-5: Second Triplet)	Pg. 89: Table 5-10 Pp. 93-94: Field Definition Pp. 127-130: Appendix A: Code Tables – Vaccine Tradename (VTN) (Table VTN) Pp. 132-141: Appendix A: Code Tables – Vaccines Administered (Package NDC), (Unit NDC) (Table NDC) Pg. 143-157: CVX + VTN RXA-5 for decrementing inventory
RXA-6	Administered Amount	Dose/Dosage (Dose Amount)	Pg. 89: Table 5-10 Pp. 94-95: Field Definition
RXA-7		Unit (Unit)	Pg. 89: Table 5-10 Pp. 95-96: Field Definition

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
RXA-9	Administered Notes	Pg. 89: Table 5-10 Pg. 96: Field Definition Pg. 124: Appendix A: Code Tables – Immunization Information Source (Table NIP001)
RXA-10	Administering Provider or Clinician	Pg. 90: Table 5-10 Pg. 97: Field Definition
RXA-11	Administering Location	Pg. 90: Table 5-10 Pp. 97-98: Field Definition
RXA-15	Lot Number	Pg. 90: Table 5-10 Pg. 98: Field Definition
RXA-16	Expiration Date	Pg. 90: Table 5-10 Pg. 99: Field Definition
RXA-17	Manufacturer Name	Pg. 90: Table 5-10 Pg. 99: Field Definition Pp. 113-114: Appendix A: Code Tables – Manufacturers of Vaccines (Code = MVX) (Table 0227)
RXA-18	Substance/Treatment Refusal Reason	Pg. 90: Table 5-10 Pg. 100: Field Definition Pg. 124: Appendix A: Code Tables – Substance Refusal Reason (Table NIP002)
RXA-20	Completion Status	Pg. 90: Table 5-10 Pg. 100: Field Definition Pg. 119: Appendix A: Code Tables – Completion Status (Table 0322)
RXA-21	Action Code – RXA	Pg. 90: Table 5-10 Pg. 101: Field Definition Pg. 119: Appendix A: Code Tables – Action Code (Table 0323)

Administered VXU – RXR Segment

Pharmacy/Treatment Route Segment

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
RXR-1	Route of Administration	Pg. 102: Table 5-11 Pp. 102-103: Field Definition Pp. 111-112: Appendix A: Code Tables – Route of Administration (Table 0162)
RXR-2	Administration (Body) Site	Pg. 102: Table 5-11 Pp. 103-104: Field Definition Pg. 112: Appendix A: Code Tables – Administrative Site (Table 0163)

Administered VXU – ORC Segment

Order Request Segment

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
ORC-1	Order Control	Pg. 64: Table 5-7 Pp. 66-67: Field Definition Pg. 111: Appendix A: Code Tables – Order Control (Table 0119)
ORC-3	Filler Order Number	Pg. 64: Table 5-7 Pp. 67: Field Definition
ORC-12	Ordering Provider	Pg. 65: Table 5-7 Pp. 68-69: Field Definition

Historical Dose VXU – RXA Segment

Pharmacy/Treatment Administration Segment for Historical Dose

A historical dose is a dose that you record in the EHR which was administered by another organization.

HL7 Field	HL7 Element Name		NCLIG Reference Page Numbers
RXA-3	Dose Date		Pg. 89: Table 5-10 Pg. 92: Field Definition
RXA-5	Administered Code	CVX Code (RXA-5: First Triplet)	Pg. 89: Table 5-10 Pp. 93-94: Field Definition Pp. 116-119: Appendix A: Code Tables – Vaccines Administered (CVX Codes) (Table 0292) Pp. 143-157: CVX + VTN RXA-5 for decrementing inventory
		NCIR Tradename Code/NDC (RXA-5: Second Triplet)	Pg. 89: Table 5-10 Pp. 93-94: Field Definition Pp. 127-130: Appendix A: Code Tables – Vaccine Tradename (VTN) (Table VTN) Pp. 132-141: Appendix A: Code Tables – Vaccines Administered (Package NDC), (Unit NDC) (Table NDC) Pp. 143-157: CVX + VTN RXA-5 for decrementing inventory
RXA-6	Administered Amount	Dose/Dosage (Dose Amount)	Pg. 89: Table 5-10 Pp. 94-95: Field Definition
RXA-7		Unit (Unit)	Pg. 89: Table 5-10 Pp. 95-96: Field Definition
RXA-9	Administered Notes		Pg. 89: Table 5-10 Pg. 96: Field Definition Pg. 124: Appendix A: Code Tables – Immunization Information Source (Table NIP001)
RXA-10	Administering Provider or Clinician		Pg. 90: Table 5-10 Pg. 97: Field Definition

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
RXA-11	Administering Location	Pg. 90: Table 5-10 Pp. 97-98: Field Definition
RXA-15	Lot Number	Pg. 90: Table 5-10 Pg. 98: Field Definition Pp. 143-157: CVX + VTN RXA-5 for decrementing inventory
RXA-16	Expiration Date	Pg. 90: Table 5-10 Pg. 99: Field Definition
RXA-17	Manufacturer Name	Pg. 90: Table 5-10 Pg. 99: Field Definition Pp. 113-114: Appendix A: Code Tables – Manufacturers of Vaccines (Code = MVX) (Table 0227) Pp. 143-157: CVX + VTN RXA-5 for decrementing inventory

Historical Dose VXU – RXR Segment

Pharmacy/Treatment Route Segment

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
RXR-1	Route of Administration	Pg. 102: Table 5-11 Pp. 102-103: Field Definition Pp. 111-112: Appendix A: Code Tables – Route of Administration (Table 0162)
RXR-2	Administration (Body) Site	Pg. 102: Table 5-11 Pp. 103-104: Field Definition Pg. 112: Appendix A: Code Tables – Administrative Site (Table 0163)

Historical Dose VXU – ORC Segment

Order Request Segment

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
ORC-1	Order Control	Pg. 64: Table 5-7 Pp. 66-67: Field Definition Pg. 111: Appendix A: Code Tables – Order Control (Table 0119)
ORC-3	Filler Order Number	Pg. 64: Table 5-7 Pp. 67: Field Definition
ORC-12	Ordering Provider	Pg. 65: Table 5-7 Pp. 68-69: Field Definition

Error/Warning – ERR Segment (Z23 – ACK Only)

Error Segment

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
ERR-2	Error Location	Pg. 20: Table 5-2 Pg. 21: Field Definition
ERR-3	HL7 Error Code	Pg. 20: Table 5-2 Pg. 21: Field Definition Pp. 119-120: Appendix A: Code Tables – Message Error Status Codes (Table 0357)
ERR-4	Severity	Pg. 20: Table 5-2 Pg. 22: Field Definition Pg. 121-124: Appendix A: Code Tables – Error Severity (Table 0516/0533)
ERR-5	Application Error Code	Pg. 20: Table 5-2 Pg. 22: Field Definition
ERR-8	User Message	Pg. 20: Table 5-2 Pg. 22: Field Definition

Acknowledgement – MSA Segment

Message Acknowledgement Segment

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
MSA-1	Acknowledgement Code	Pg. 24: Table 5-3 Pg. 24: Field Definition Pg. 110: Appendix A: Code Tables – Acknowledgement Code (Table 0008)
MSA-2	Message Control ID	Pg. 24: Table 5-3 Pg. 25: Field Definition

QBP – MSH Segment

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
MSH-3	Sending Application	Pg. 26: Table 5-4 Pg. 29: Field Definition
MSH-4	Sending Facility	Pg. 26: Table 5-4 Pg. 30: Field Definition
MSH-6	Receiving Facility	Pg. 26: Table 5-4 Pg. 31: Field Definition
MSH-7	Date/Time of Message	Pg. 26: Table 5-4 Pg. 31-32: Field Definition
MSH-9	Message Type	Pg. 27: Table 5-4 Pg. 32: Field Definition Pg. 99: Appendix A: Code Tables – Event Type (Table 0003) Pg. 100: Appendix A: Code Tables – Message Type (Table 0076)

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
MSH-10	Message Control ID	Pg. 27: Table 5-4 Pg. 33: Field Definition
MSH-11	Processing ID	Pg. 27: Table 5-4 Pg. 33: Field Definition Pg. 100: Appendix A: Code Tables – Processing ID (Table 0103)
MSH-12	Version ID	Pg. 27: Table 5-4 Pg. 34: Field Definition Pg. 100: Appendix A: Code Tables – Version ID (Table 0104)
MSH-15	Accept Acknowledgement Type	Pg. 27: Table 5-4 Pg. 35: Field Definition Pg. 100: Appendix A: Code Tables – Accept/Application Acknowledgement Conditions (Table 0155)
MSH-16	Application Acknowledgement Type	Pg. 27: Table 5-4 Pg. 35-36: Field Definition Pg. 100: Appendix A: Code Tables – Accept/Application Acknowledgement Conditions (Table 0155)
MSH-21	Message Profiler Identifier	Pg. 27: Table 5-4 Pg. 37: Field Definition Pg. 99: Appendix A: Code Tables – Immunization Profile Identifiers (Table CDCPHINVS)
MSH-22	Sending Responsible Organization	Pg. 28: Table 5-4 Pg. 38: Field Definition
MSH-23	Receiving Responsible Organization	Pg. 28: Table 5-4 Pg. 39: Field Definition

QBP – QPD Segment

Query Parameter Definition

HL7 Field	HL7 Element Name		NCLIG Reference Page Numbers
QPD-3	NCIR Client ID (SR)		Pg. 72: Table 5-11 Pg. 74: Field Definition
	Chart Number or Organization Identifier for Client [Identifier Type Code – PI]		Pg. 72: Table 5-11 Pg. 74: Field Definition
QPD-4	Patient Name	Last, First and Middle Name (QPD-4.1-3)	Pg. 72: Table 5-11 Pp. 74-75: Field Definition
		Name Type Code (QPD-4.7)	Pg. 72: Table 5-11 Pp. 74-75: Field Definition Pg. 101: Appendix A: Code Tables – Name Type (Table 0200)
QPD-5	Mother's Maiden Last and First Name		Pg. 72: Table 5-11 Pg. 75: Field Definition
QPD-6	Date of Birth		Pg. 72: Table 5-11 Pp. 75-76: Field Definition
QPD-7	Gender		Pg. 72: Table 5-11 Pg. 76: Field Definition Pg. 99: Appendix A: Code Tables – Sex (Table 0001)
QPD-8	Patient Address	Street Address (QPD-8.)	Pg. 72: Table 5-11 Pg. 76: Field Definition
		City (QPD-8.)	Pg. 72: Table 5-11 Pg. 76: Field Definition
		State (QPD-8.4)	Pg. 72: Table 5-11 Pg. 76: Field Definition

HL7 Field	HL7 Element Name		NCLIG Reference Page Numbers
		County (QPD-8.9)	Pg. 72: Table 5-11 Pg. 76: Field Definition Pp. 103-105: Appendix A: Code Tables – County (North Carolina Only) (Table 0289)
		Zip Code (QPD-8.5)	Pg. 72: Table 5-11 Pg. 76: Field Definition
		Address Type (QPD-8.7)	Pg. 72: Table 5-11 Pg. 76: Field Definition Pg. 101: Appendix A: Code Tables – Address Type (Table 0190)
QPD-9	Patient Phone Number	Telecom Use Code (QPD-9.2)	Pg. 72: Table 5-11 Pg. 101: Appendix A: Code Tables – Telecommunication Use Code (Table 0201)
		Area Code (QPD-9.6)	Pg. 72: Table 5-11
		Local Number (QPD9.7)	Pg. 72: Table 5-11
QPD-10	Patient Multiple Birth Indicator		Pg. 72: Table 5-11 Pp. 76-77: Field Definition
QPD-11	Patient Multiple Birth Order		Pg. 72: Table 5-11 Pg. 77: Field Definition

QBP – RCP Segment

Response Control Parameter

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
RCP-1	Query Priority	Pg. 78: Table 5-12 Pp. 78-79: Field Definition
RCP-2	Quantity Limited Request	Pg. 78: Table 5-12 Pg. 79: Field Definition
RCP-3	Response Modality	Pg. 78: Table 5-12 Pp. 79: Field Definition

QBP RSP Segment – No Match

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
MSH-21	Message Profile Identifier (Z33^CDCPHINVS)	Pg. 27: Table 5-4 Pp. 37-38: Field Definition
MSA-1	Acknowledgement Code	Pg. 24: Table 5-3 Pg. 25: Field Definition Pg. 99: Appendix A: Code Tables – Acknowledgement Code (Table 0008)
MSA-2	Message Control ID	Pg. 24: Table 5-3 Pg. 25: Field Definition
QAK-2	Acknowledgement	Pg. 70: Table 5-10 Pg. 71: Field Definition
QAK-2	Query Response Status	Pg. 70: Table 5-10 Pg. 71: Field Definition

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
ERR-2	Error Location	Pg. 20: Table 5-2 Pg. 21: Field Definition
ERR-4	Severity	Pg. 20: Table 5-2 Pg. 22: Field Definition
ERR-5	Application Error Code	Pg. 20: Table 5-2 Pg. 22: Field Definition
ERR-8	User Message	Pg. 20: Table 5-2 Pg. 22: Field Definition

QBP RSP Segment – Multi Match

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
MSH-21	Message Profile Identifier	Pg. 27: Table 5-4 Pp. 37-38: Field Definition
MSA-1	Acknowledgement Code	Pg. 24: Table 5-3 Pg. 25: Field Definition Pg. 99: Appendix A: Code Tables – Acknowledgement Code (Table 0008)
MSA-2	Message Control ID	Pg. 24: Table 5-3 Pg. 25: Field Definition
QAK-1	Query Tag	Pg. 70: Table 5-10 Pp. 70-71: Field Definition
QAK-2	Query Response Status	Pg. 70: Table 5-10 Pg. 71: Field Definition
ERR-2	Error Location	Pg. 20: Table 5-2 Pg. 21: Field Definition

HL7 Field	HL7 Element Name	NCIG Reference Page Numbers
ERR-4	Severity	Pg. 20: Table 5-2 Pg. 22: Field Definition
ERR-5	Application Error Code	Pg. 20: Table 5-2 Pg. 22: Field Definition
ERR-8	User Message	Pg. 20: Table 5-2 Pg. 22: Field Definition
PID	Multiple PID Segments	Pg. 62: Patient Identifier Segment Pp. 62-65: Table 5-9 Pp. 65-69: PID Field Definitions Pg. 101: Appendix A: Code Tables – Identifier Type (Table 0203)
NK1	Multiple Corresponding NK1 Segments	Pg. 40: Next of Kin Segments Pp. 40-42: Table 5-5 Pp. 43-45: Field Definitions Pg. 101: Appendix A: Code Tables – Publicity Code (Table 0215)

QBP RSP Segment – Exact Match

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
MSH-21	Message Profile Identifier (Z32^CDCPHINVS)	Pg. 27: Table 5-4 Pp. 37-38: Field Definition
QAK-2	Acknowledgement	Pg. 70: Table 5-10 Pg. 71: Field Definition
QPD Segment Fields	Query Parameter Definition	Pp. 71-72: Query Parameter Definition Pp. 72-73: Table 5-11 Pp. 73-77: Field Definitions

HL7 Field	HL7 Element Name		NCLIG Reference Page Numbers
PID Segment Fields	Patient Identifier (Exact)		Pg. 62: Patient Identifier Segment Pp. 62-65: Table 5-9 Pp. 65-69: PID Field Definitions Pg. 101: Appendix A: Code Tables – Identifier Type (Table 0203)
ORC-1	Order Control		Pg. 54: Table 5-7 Pg. 57: Field Definition Pg. 100: Appendix A: Code Tables – Order Control (Table 0119)
NK1-2	Responsible Person Patient Name	Last, First and Middle Name (NK1-2.1-3)	Pg. 40: Table 5-5 Pg. 43: Field Definition SEQ 3 – Pp. 99-100: Appendix A: Code Tables – Relationship (Table 0063)
		Name Type Code (NK1-2.7)	Pg. 40: Table 5-5 Pg. 43: Field Definition Pg. 101: Appendix A: Code Tables – Name Type (Table 0200)
ORC-3	Filler Order Number		Pg. 54: Table 5-7 Pg. 57: Field Definition
RXA-3	Dose Date		Pg. 81: Table 5-13 Pg. 83: Field Definition
RXA-5	Administered Code (CVX Code)		Pg. 81: Table 5-13 Pg. 84: Field Definition Pp. 105-108: Appendix A: Code Tables – Vaccines Administered (CVX Codes) (Table 0292)
RXA-6	Administered Amount (First Triplet)	Dose	Pg. 81: Table 5-13 Pg. 85: Field Definition
RXA-7		Unit	Pg. 81: Table 5-13 Pg. 85: Field Definition
RXA-9	Administered Amount/Administered Notes		Pg. 81: Table 5-13 Pp. 85-86: Field Definition

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
RXA-10	Administering Provider or Clinician	Pg. 81: Table 5-13 Pg. 86: Field Definition
RXA-11	Administered at Location	Pg. 81: Table 5-13 Pg. 86: Field Definition
RXA-15	Lot Number	Pg. 82: Table 5-13 Pg. 86-87: Field Definition
RXA-16	Expiration Date	Pg. 82: Table 5-13 Pg. 87: Field Definition
RXA-17	Manufacturer Name	Pg. 82: Table 5-13 Pg. 87: Field Definition Pp. 102-103: Appendix A: Code Tables – Manufacturers of Vaccines (Code = MVX) (Table 0227)
RXA-18	Substance/Treatment Refusal Reason	Pg. 82: Table 5-13 Pg. 87-88: Field Definition
RXA-20	Completion Status	Pg. 82: Table 5-13 Pg. 88: Field Definition Pg. 108: Appendix A: Code Tables – Completion Status (Table 0322)
OBX-5	Vaccine Due Next	Pg. 47: Table 5-6 Pp. 51-52: Field Definition
OBX-5	Date Vaccine Due	Pg. 47: Table 5-6 Pp. 51-52: Field Definition
OBX-5	Vaccine Due Next Dose	Pg. 47: Table 5-6 Pp. 51-52: Field Definition
OBX-5	Earliest Date to Give	Pg. 47: Table 5-6 Pp. 51-52: Field Definition

QBP RSP – Exact Match Inventory Dose

HL7 Field	HL7 Element Name		NCLIG Reference Page Numbers
RXA-3	Date/Time Start of Administration		Pg. 81: Table 5-13 Pg. 83: Field Definition
RXA-5	Administered Code	CVX Code (First Triplet)	Pg. 81: Table 5-13 Pg. 84: Field Definition Pp. 105-108: Appendix A: Code Tables – Vaccines Administered (CVX Codes) (Table 0292)
RXA-6	Administered Amount	Dose	Pg. 81: Table 5-13 Pg. 85: Field Definition
RXA-7		Unit	Pg. 81: Table 5-13 Pg. 85: Field Definition
RXA-9	Administered Notes		Pg. 81: Table 5-13 Pg. 85-86: Field Definition
RXA-10	Administering Provider or Clinician		Pg. 81: Table 5-13 Pg. 86: Field Definition
RXA-11	Administering Location		Pg. 81: Table 5-13 Pg. 86: Field Definition
RXA-15	Lot Number		Pg. 82: Table 5-13 Pg. 86-87: Field Definition
RXA-16	Expiration Date		Pg. 82: Table 5-13 Pg. 87: Field Definition
RXA-17	Manufacturer Name		Pg. 82: Table 5-13 Pg. 87: Field Definition Pp. 102-103: Appendix A: Code Tables – Manufacturers of Vaccines (Code = MVX) (Table 0227)
RXA-18	Substance/Treatment Refusal Reason		Pg. 82: Table 5-13 Pg. 87-88: Field Definition

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
RXA-20	Completion Status	Pg. 82: Table 5-13 Pg. 88: Field Definition Pg. 108: Appendix A: Code Tables – Completion Status (Table 0322)
RXR-1	Route	Pg. 89: Table 5-14 Pg. 90: Field Definition Pp. 100-101: Appendix A: Code Tables – Route of Administration (Table 0162/NCIT)
RXR-2	Administration Site	Pg. 89: Table 5-14 Pg. 90: Field Definition Pg. 101: Appendix A: Code Tables – Administrative Site (Table 0163)
OBX-5	VIS Date Presented	Pg. 47: Table 5-6 Pp. 51-52: Field Definition
OBX-5	VIS Date Published	Pg. 47: Table 5-6 Pp. 51-52: Field Definition
OBX-14	Date/Time of the Observation	Pg. 48: Table 5-6 Pg. 53: Field Definition

QBP RSP – Exact Match Historical Dose

HL7 Field	HL7 Element Name		NCLIG Reference Page Numbers
RXA-3	Date/Time Start of Administration		Pg. 81: Table 5-13 Pg. 83: Field Definition
RXA-5	Administered Code	CVX Code (First Triplet)	Pg. 81: Table 5-13 Pg. 84: Field Definition Pp. 105-108: Appendix A: Code Tables – Vaccines Administered (CVX Codes) (Table 0292)
RXA-9	Administered Notes		Pg. 81: Table 5-13 Pg. 85-86: Field Definition
RXA-11	Administering Location		Pg. 81: Table 5-13 Pg. 86: Field Definition

QBP RSP Segment – Multi Match

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
MSH-21	Message Profile Identifier (Z31^CDCPHINVS)	Pg. 27: Table 5-4 Pp. 37-38: Field Definition
MSA-1	Query Response	Pg. 24: Table 5-3 Pg. 25: Field Definition Pg. 99: Appendix A: Code Tables – Acknowledgement Code (Table 0008)
QAK-2	Acknowledgement	Pg. 70: Table 5-10 Pg. 71: Field Definition
PID Segment 1	Patient Identifier (Multi)	Pg. 62: Patient Identifier Segment Pp. 62-65: Table 5-9 Pp. 65-69: PID Field Definitions Pg. 101: Appendix A: Code Tables – Identifier Type (Table 0203)

HL7 Field	HL7 Element Name	NCLIG Reference Page Numbers
PID Segment 2	Patient Identifier (Multi)	<p>Pg. 62: Patient Identifier Segment</p> <p>Pp. 62-65: Table 5-9</p> <p>Pp. 65-69: PID Field Definitions</p> <p>Pg. 101: Appendix A: Code Tables – Identifier Type (Table 0203)</p>
NK1-2 Segment 1	Responsible Person First and Last Name (Multi)	<p>Pg. 40: Next of Kin Segments</p> <p>Pp. 40-42: Table 5-5</p> <p>Pp. 43-45: Field Definitions</p> <p>SEQ 3 – Pp. 99-100: Appendix A: Code Tables – Relationship (Table 0063)</p> <p>Pg. 101: Appendix A: Code Tables – Name Type (Table 0200)</p> <p>Pg. 101: Appendix A: Code Tables – Publicity Code (Table 0215)</p>
NK1-2 Segment 2	Responsible Person First and Last Name (Multi)	<p>Pg. 40: Next of Kin Segments</p> <p>Pp. 40-42: Table 5-5</p> <p>Pp. 43-45: Field Definitions</p> <p>SEQ 3 – Pp. 99-100: Appendix A: Code Tables – Relationship (Table 0063)</p> <p>Pg. 101: Appendix A: Code Tables – Name Type (Table 0200)</p> <p>Pg. 101: Appendix A: Code Tables – Publicity Code (Table 0215)</p>

NCIR Interoperability Onboarding Checklist

Provider Organization:		EHR Vendor:	
Step 1: Provider Registration			
Provider Registration	Yes	Date	Comments and Resources
Responsibility: Provider Begin Registration of Intent to Submit Data Electronically https://ncdphmeaningfuluse.org/	<input type="checkbox"/>		For Reference, NC Registration of Intent User Guide – https://ncdphmeaningfuluse.org/NC_MURegistrationofIntent_UserGuide.pdf
Provider Registration Communication	Yes	Date	Comments and Resources
Responsibility: Provider Upon successful completion of registration, Provider receives auto-generated Registration Acknowledgement notification. The notification email will provide the details regarding the next steps as well. *EP/EH must retain a copy for attestation purposes*	<input type="checkbox"/>		
Registration Verification and Provider Notification	Yes	Date	Comments and Resources
Responsibility: NCIR The NCIR will verify the Registration data and EP/EH will receive the notification if participation criteria are not met.	<input type="checkbox"/>		

Step 2: Technical Readiness

The NCIR recommends the Provider Technical Team to thoroughly review the Onboarding Toolkit and the steps involved in Technical Readiness phase. The Provider must contact the NCIR technical team at (NCIRtechnicalreadiness@dhhs.nc.gov) to initiate the onboarding process only after Technical Readiness is proved by their Provider Technical Team.

Onboarding Toolkit Review	Yes	Date	Comments and Resources
Responsibility: Provider and Provider Technical Team The Onboarding toolkit is available on the NCIR website for Provider and Technical team review	<input type="checkbox"/>		NCIR website link – https://www.immunize.nc.gov/providers/ncirpromotinginteroperability.htm
Technical Readiness Preparation	Yes	Date	Comments and Resources
The Provider Technical Team must ensure their Electronic Health Record software meets all required specifications for interfacing with the NCIR. The Provider Technical Team must reference the documents listed in NCIR Technical Specifications sections for interface construction.			
Responsibility: Provider Technical Team <ul style="list-style-type: none"> Conduct NIST testing for self-evaluation - https://hl7v2-iz-r1.5-testing.nist.gov/iztool/#/home Review Technical Readiness Preparation Overview and Requirements Request the NCIR Web Service Set Up Details and Credentials by sending Web Service Connectivity Request Form and Confidentiality agreement to NCIRtechnicalreadiness@dhhs.nc.gov Communicate preferred Connectivity Method details (Direct / HIEA) Conduct Connectivity Testing 	<input type="checkbox"/>		The Provider Technical Team can utilize the test case documentations available on NIST Immunization Test Suite – https://hl7v2-iz-r1.5-testing.nist.gov/iztool/#/doc The Web Service Connectivity Request Form is available on NCIR website, please refer to Onboarding Toolkit → Onboarding Agreements and Stakeholder Responsibilities section – https://www.immunize.nc.gov/providers/ncirpromotinginteroperability.htm

Technical Testing Execution	Yes	Date	Comments and Resources
<p>Responsibility: Provider Technical Team and Provider</p> <p>Execute Technical Testing –</p> <ul style="list-style-type: none"> • If required, modify the EHR to accommodate the interoperability requirements (as needed) • Execute test scenarios provided in the Technical Testing documents • Follow the steps provided in Technical Testing manual 	<input type="checkbox"/>		<p>The Technical Testing documents are available on NCIR website, please refer to Onboarding Toolkit → Technical Testing docs</p> <p>https://www.immunize.nc.gov/providers/ncirpromotinginteroperability.htm</p>
Test Result Validation by the Provider Technical Team	Yes	Date	Comments and Resources
<p>Responsibility: Provider Technical Team and Provider</p> <ul style="list-style-type: none"> • Technical Team validates the test execution using the NCIR Technical Readiness Checklist • Contact the NCIR only when all exit criteria listed in the SOP for Technical Testing documents are met • Send Technical Readiness Checklist and Test Execution Results to NCIRtechnicalreadiness@dhhs.nc.gov 	<input type="checkbox"/>		<p>The Technical Testing documents are available on NCIR website, please refer to Onboarding Tool Kit → Technical Testing docs</p> <p>https://www.immunize.nc.gov/providers/ncirpromotinginteroperability.htm</p>
Technical Readiness Validation by NCIR	Yes	Date	Comments and Resources
<p>Responsibility: Provider Technical Team and NCIR team</p> <ul style="list-style-type: none"> • The NCIR reviews all test execution and Technical Readiness checklist • If any compliance issue found during the validation, NCIR will let Technical Team know about the variations • If compliance issue – <ul style="list-style-type: none"> ○ Pursue countermeasures to correct issues ○ Modify the EHR to accommodate the interoperability requirements (as needed) 	<input type="checkbox"/>		<p>The Technical Readiness Checklist document is available on NCIR website, please refer to Onboarding Toolkit → Technical Testing docs</p> <p>https://www.immunize.nc.gov/providers/ncirpromotinginteroperability.htm</p>

<ul style="list-style-type: none"> ○ Resubmit Technical Readiness Checklist and Test Execution Results to NCIRtechnicalreadiness@dhhs.nc.gov ○ The NCIR revalidates the test execution. <p>If needed, Provider Technical team will demonstrate the workflow of the Provider.</p>			
Technical Readiness Approval / Technical Testing Sign Off	Yes	Date	Comments and Resources
<p>Responsibility: Provider Technical Team and NCIR</p> <p>Technical Testing Sign Off –</p> <ul style="list-style-type: none"> • Technical Readiness must be proved before NCIR approves entrance into next steps 	<input type="checkbox"/>		
Step 3: Business Readiness Preparation			
Initial Site Selection	Yes	Date	Comments and Resources
<p>Responsibility: Health System organization and NCIR</p> <p>Review Business Readiness Preparation overview and requirements</p>	<input type="checkbox"/>		
Programmatic Readiness Review	Yes	Date	Comments and Resources
<p>Responsibility: NCIP and Provider</p> <p>Review Provider Programmatic Readiness Requirements –</p> <ul style="list-style-type: none"> • NCIP – FSU: Pre-Onboarding Evaluation Checklist <p>VFC Only Providers –</p> <ul style="list-style-type: none"> • NCIP – FSU: Review Inventory and Program Compliance • NCIP- FSU: Support Provider with Inventory Management and Program Compliance (if needed) • If Programmatic Readiness is not achieved, FSU will communicate issues 	<input type="checkbox"/>		

Note: Program compliance evaluation is not applicable for non-VFC providers.			
Responsibility: Provider If Programmatic Readiness is not achieved, pursue countermeasures to correct issues Note: Program compliance evaluation is not applicable for non-VFC providers.	<input type="checkbox"/>		
Clinical Testing Kick off with Stakeholders	Yes	Date	Comments and Resources
Responsibility: Provider Technical Team, NCIR, NCIP, and Provider NCIR conducts meeting with all stakeholders to discuss/review – <ul style="list-style-type: none"> • Expectations • Organization’s onboarding criteria • Define an onboarding plan for the Initial Site or Provider Organization • Specify start dates • Designate POCs • Roles and Responsibilities • MOU Document 	<input type="checkbox"/>		
Responsibility: Provider Review the MOU document and submit a signed copy to the NCIR	<input type="checkbox"/>		
Clinical Training and Testing	Yes	Date	Comments and Resources

<p>Responsibility: NCIR, NCIP and Provider</p> <p>Prepare Clinical Staff to establish training plan –</p> <ul style="list-style-type: none"> • Use Clinical Training Material and Webinar Training Sessions • Correct data entry and check error warning messages • Inventory Management • Data correction <p>Using NCIR Clinical Testing Scenarios, Execute Clinical Training / Workflow Training</p> <ul style="list-style-type: none"> • Clinical Staff complete the clinical testing scenarios <ul style="list-style-type: none"> ○ Update Interface Testing (VXU Z22/ ACK Z23) ○ Query Interface Testing (QBP Z44/ RSP Z42 or QBP Z34 / Z32, Z33) <p>If Clinical Testing is not successful –</p> <ul style="list-style-type: none"> • NCIR: Communicate failures of testing results provider: Pursue countermeasures to correct failures 	<input type="checkbox"/>		Note: For health system based onboarding clinical testing applicable only for initial provider organization or based on requirement
Business Readiness Approval	Yes	Date	Comments and Resources
<p>Responsibility: NCIR and provider</p> <p>Once all criteria have been met, an approval communication is sent to the key stakeholders/designated POCs</p>	<input type="checkbox"/>		
Evaluate Provider Compliance (VFC Only) for Bulk Onboarding	Yes	Date	Comments and Resources
<p>Responsibility: Field Service Unit and NCIR</p> <ul style="list-style-type: none"> ○ The FSU will verify that the identified provider(s) is/are within compliance of all federal, state, Medicaid and Medicare regulations. 	<input type="checkbox"/>		

If the provider meets all criteria, they will be approved for bulk onboarding after the initial Provider Organization has gone live.			
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Step 4: Production Deployment			
Production Planning	Yes	Date	Comments and Resources
Responsibility: NCIP, NCIR and Provider Finalize and schedule “Go Live” plan – <ul style="list-style-type: none"> Finalize Go live date(s) Inventory reconciliation by Regional Immunization Consultant (RIC) NCIR provides credentials to the PROD environment Conduct connectivity testing in NCIR Prod environment 	<input type="checkbox"/>		
“Go Live” for Initial Site	Yes	Date	Comments and Resources
Responsibility: NCIR, NCIP and Provider On the pre-determined date, the Provider/Organization initiates a live interoperability connection with the NCIR PROD environment <ul style="list-style-type: none"> Monitor live interoperability to see ongoing submissions for 1 to 2 days If errors, notify Provider of issues Provider status updated to "Ongoing Submission Achieved" 	<input type="checkbox"/>		
Bulk Onboarding “N+1” Deployment	Yes	Date	Comments and Resources

<p>Responsibility: NCIP, NCIR, Provider, and Provider Technical Team</p> <p>Using the Onboarding Plan Guidelines –</p> <ul style="list-style-type: none"> Define N+1 onboarding plan Come up with sites to be onboarded list and schedule details. 	<input type="checkbox"/>		<p>For Bulk onboarding criterion for N+1 onboarding, refer to NCIR Website –</p> <p>https://www.immunize.nc.gov/providers/ncirpromotinginteroperability.htm</p>
<p>Responsibility: NCIR, Provider, and Provider Technical Team</p> <p>For N+1 provider, execute Connectivity Test to NCIR PROD Environment</p>	<input type="checkbox"/>		<p>The NCIR may recommend N+1 site(s) to execute Clinical Testing on specific scenarios. For more details refer the NCIR website.</p>
<p>Responsibility: NCIP, NCIR and Provider</p> <p>Monitor live interoperability to see ongoing submissions for 1 to 2 days</p>	<input type="checkbox"/>		
Step 5: Postproduction			
Monitor Live NCIR Data Transmission	Yes	Date	Comments and Resources
<p>Responsibility: NCIP, NCIR, and Provider</p> <p>Monitor –</p> <ul style="list-style-type: none"> Provider (and NCIP if needed): Monitor OND (Owned/Non-Deducting) Report NCIR performs the following (if needed) – <ul style="list-style-type: none"> Monitor Live Interoperability for 1 to 2 weeks Assists and responds to technical service needs of the provider/organization 	<input type="checkbox"/>		

NCIR Web Service Connectivity Request Form

EHR Information

The NCIR is requesting the below information to set up a test Organization to conduct Technical Readiness testing. After completing this form and the Confidentiality Agreement, send both completed documents to ncirdataexchange@dhhs.nc.gov. The NCIR will set up the test Organization based on the info provided by the EHR, and Webservice connectivity details will be provided soon after.

EHR Organization Information

Organization Name:

Address:

EHR Primary Point of Contact for NCIR:

Job Title:

Phone Number:

Email Address:

Connection Preference

NCIR Direct/ Through HIEA:

Set Up Information

EHR Product Name:

EHR Product Version (if applicable):

Do you have a test environment to conduct testing with NCIR?

Does your EHR software have different versions installed in your Client's systems?

NCIR Confidentiality Agreement
North Carolina Immunization Registry
Training Environment
User Confidentiality Agreement
Electronic Health Record Vendor: [Vendor Name]

As an EHR vendor and a user of the Training region of the North Carolina Immunization Registry, **I agree to abide by the following policies –**

1. Use information contained in the registry only for purposes for which it is intended.
2. Release registry information only to those parties allowed access by North Carolina law and North Carolina administrative code.
3. Keep all information contained in the registry confidential.
4. Keep my assigned credentials confidential.
5. Report any violations of confidentiality that I witness.

Employee Name (Please Print)

Employee Signature

Date

Onsite NCIR System Administrator Signature

Date

NCIR Testing Manual

Before You Start

Testing Purpose

The purpose of Technical Testing is for the EHR to demonstrate the interface is built to meet all NCIR business requirements and can send meaningful, complete and accurate data to the NCIR. Subsequently, this allows the NCIR to verify if an EHR is ready to begin onboarding providers for interoperability.

Scope

The included scenarios are key technical capabilities and relevant to clinical workflow. All test cases are scenarios that will be encountered at a clinical level and relevant to information required by state and federal requirements and regulations.

The Test scenarios are designed to test –

1. Child Administration
2. Adult Administration
3. Update to immunization and demographic data
4. Documentation of Client comment
5. Documentation of Parental Refusal or Religious Exemption
6. Query for a child
7. Query for an adult
8. Query for a patient that does not exist in the NCIR
9. Query for a patient which returns multiple patients

Prerequisites

Before execution of the following test cases can take place, please verify the following info has been completed:

1. NIST Testing completed
2. Connection preference selected and communicated to NCIR
3. Interface is built per the specifications provided in the North Carolina Local Implementation Guide (NCLIG)
4. Credentials received from NCIR
5. Inventory set up in test environment
6. Clinicians and physicians set up in test environment
7. Connection test completed

Test Execution Instructions

Provider or Provider Technical Team must complete testing within **1-2 weeks** of beginning of the testing phase. The execution of a scenario should not take more than an hour. Provider should log in to their EHR system to execute all testing scenarios. The Provider or Provider Technical Team must use the data provided by the NCIR for the test execution.

Test Cases consists of 2 steps for both update and query/response interfaces –

Update or VXU/ACK interface –

1. creating immunization messages based on the Immunization Messaging Standard (Z22 Profile-VXU Message) and specific Test Data, and
2. receiving acknowledgment messages based on the Immunization Messaging Standard (Z23 Profile-ACK Message).

Query Response or QBP/RSP interface –

1. create query messages based on Immunization Messaging Standard (Z44 Profile) and specific Test Data, and
2. receive (Z42 Profile) messages and display evaluated history and forecast OR receive (Z33 Profile) and display too many patients found, or no patients found.

Result Documentation

In order to verify results and determine EHR capability, the NCIR has a guideline for required information to capture during Technical testing.

A provider IT Specialist should take the following steps in documenting their technical testing –

1. Take screenshots of EHR UI as information is entered.
2. Include corresponding HL7 Message for submissions and acknowledgements.
3. Provide patient chart number or message MSH-10/webservice information.

Verification

Test Cases: At the end of each testing scenario there is an ‘Exit Criteria’ section and it is for test result verification. This allows the Provider Technical Team to verify if all required info for each test case has been submitted. By checking each box in this tab, the Provider Technical Team is confirming that the required information has been sent or received and recorded in the UI.

Test Scenario 1 Child Administration		
Description: A child (infant) is seen at a clinic. Historical vaccinations are recorded, and new vaccines are administered and documented.		
	Test Steps	Expected Result
1.1_VXU_Send_Z22	<p>Description: A two-month-old male infant is brought to a clinic for a well child visit by his mother. A clinic staff member collects basic patient demographic information including name, date of birth and sex.</p> <p>A clinic provider reviews the patient's vaccination history and determines –</p> <ul style="list-style-type: none"> • Child previously received Hepatitis B vaccine 1 day after birth and 1 month after birth. • Child needs DTaP, Hib, IPV, Rotavirus and Pneumococcal vaccinations. • Because of the patient's status of Native American, he qualifies for all Vaccine For Children (VFC) supplied vaccines under the status of VFC eligible – American Indian/Alaska Native. <p>The parents are given 5 Vaccine Information Sheets (VIS) to review. After reading them, they agree that the child should receive all the vaccinations recommended. They indicate that reminders and recalls can be sent.</p> <p>Appropriate doses of DTaP/Hib/IPV (Pentacel), Rotavirus (RotaTeq) and Pneumococcal (Prevnar 13) are selected from the clinic's stock of State funded vaccines. A clinician prepares and administers the doses to the patient and then enters both the new and historical vaccines data into the EHR and transmits it to the NCIR.</p> <p>Test Objectives:</p> <ul style="list-style-type: none"> • Create an administration message containing new administrations (using NDC) • Support for Responsible Person • Support for VIS • Support for funding source 	<p>The Immunization update (VXU - Z22 profile) message containing all the expected data elements is sent to the NCIR. The expected data is successfully updated in the NCIR system. The live vaccines are documented with NDC codes and historical with CVX codes. The populated codes in the message match the NCIR specifications.</p>

1.1_ack_Rec_Z23	Description: The NCIR returns a positive acknowledgement message indicating that no errors were found while filing the message. Test Objectives: <ul style="list-style-type: none"> No Test Objectives 		Acknowledgement message indicating no errors is sent from the NCIR.												
Exit Criteria: <input type="checkbox"/> 1. Child administration: Verify Patient and Responsible Person demographics, historical and administered vaccinations data.															
<table border="1"> <thead> <tr> <th colspan="4" data-bbox="170 542 1919 594">Checklist:</th> </tr> <tr> <th data-bbox="170 594 606 651">MSH 10:</th> <th data-bbox="606 594 1043 651">MSH 10:</th> <th data-bbox="1043 594 1480 651">MSH 10:</th> <th data-bbox="1480 594 1919 651">MSH 10:</th> </tr> </thead> <tbody> <tr> <td data-bbox="170 651 606 1435"> Patient <ul style="list-style-type: none"> <input type="checkbox"/> First name <input type="checkbox"/> Last name <input type="checkbox"/> Date of Birth <input type="checkbox"/> Gender <input type="checkbox"/> Mother's maiden name <input type="checkbox"/> Ethnicity <input type="checkbox"/> Race <input type="checkbox"/> Patient Status Responsible Person <ul style="list-style-type: none"> <input type="checkbox"/> First name <input type="checkbox"/> Last name <input type="checkbox"/> Address <input type="checkbox"/> Phone number <input type="checkbox"/> Relationship type <input type="checkbox"/> Reminder & recall <input type="checkbox"/> Language </td> <td data-bbox="606 651 1043 1435"> Hep B <ul style="list-style-type: none"> <input type="checkbox"/> Historical dose CVX <input type="checkbox"/> Historical location <input type="checkbox"/> Historical dose CVX <input type="checkbox"/> Historical location Pentacel <ul style="list-style-type: none"> <input type="checkbox"/> NDC <input type="checkbox"/> Lot # <input type="checkbox"/> Dose <input type="checkbox"/> Manufacturer <input type="checkbox"/> Administration date <input type="checkbox"/> Ordering Authority <input type="checkbox"/> Administered By <input type="checkbox"/> Administered site and route <input type="checkbox"/> VIS date <input type="checkbox"/> Expiration <input type="checkbox"/> Eligibility <input type="checkbox"/> Funding </td> <td data-bbox="1043 651 1480 1435"> Rotateq <ul style="list-style-type: none"> <input type="checkbox"/> NDC <input type="checkbox"/> Lot # <input type="checkbox"/> Dose <input type="checkbox"/> Manufacturer <input type="checkbox"/> Administration date <input type="checkbox"/> Ordering Authority <input type="checkbox"/> Administered By <input type="checkbox"/> Administered site and route <input type="checkbox"/> VIS date <input type="checkbox"/> Expiration <input type="checkbox"/> Eligibility <input type="checkbox"/> Funding </td> <td data-bbox="1480 651 1919 1435"> Prevnar 13 <ul style="list-style-type: none"> <input type="checkbox"/> NDC <input type="checkbox"/> Lot # <input type="checkbox"/> Dose <input type="checkbox"/> Manufacturer <input type="checkbox"/> Administration date <input type="checkbox"/> Ordering Authority <input type="checkbox"/> Administered By <input type="checkbox"/> Administered site and route <input type="checkbox"/> VIS date <input type="checkbox"/> Expiration <input type="checkbox"/> Eligibility <input type="checkbox"/> Funding </td> </tr> </tbody> </table>				Checklist:				MSH 10:	MSH 10:	MSH 10:	MSH 10:	Patient <ul style="list-style-type: none"> <input type="checkbox"/> First name <input type="checkbox"/> Last name <input type="checkbox"/> Date of Birth <input type="checkbox"/> Gender <input type="checkbox"/> Mother's maiden name <input type="checkbox"/> Ethnicity <input type="checkbox"/> Race <input type="checkbox"/> Patient Status Responsible Person <ul style="list-style-type: none"> <input type="checkbox"/> First name <input type="checkbox"/> Last name <input type="checkbox"/> Address <input type="checkbox"/> Phone number <input type="checkbox"/> Relationship type <input type="checkbox"/> Reminder & recall <input type="checkbox"/> Language 	Hep B <ul style="list-style-type: none"> <input type="checkbox"/> Historical dose CVX <input type="checkbox"/> Historical location <input type="checkbox"/> Historical dose CVX <input type="checkbox"/> Historical location Pentacel <ul style="list-style-type: none"> <input type="checkbox"/> NDC <input type="checkbox"/> Lot # 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Checklist:															
MSH 10:	MSH 10:	MSH 10:	MSH 10:												
Patient <ul style="list-style-type: none"> <input type="checkbox"/> First name <input type="checkbox"/> Last name <input type="checkbox"/> Date of Birth <input type="checkbox"/> Gender <input type="checkbox"/> Mother's maiden name <input type="checkbox"/> Ethnicity <input type="checkbox"/> Race <input type="checkbox"/> Patient Status Responsible Person <ul style="list-style-type: none"> <input type="checkbox"/> First name <input type="checkbox"/> Last name <input type="checkbox"/> Address <input type="checkbox"/> Phone number <input type="checkbox"/> Relationship type <input type="checkbox"/> Reminder & recall <input type="checkbox"/> Language 	Hep B <ul style="list-style-type: none"> <input type="checkbox"/> Historical dose CVX <input type="checkbox"/> Historical location <input type="checkbox"/> Historical dose CVX <input type="checkbox"/> Historical location Pentacel <ul style="list-style-type: none"> <input type="checkbox"/> NDC <input type="checkbox"/> Lot # <input type="checkbox"/> Dose <input type="checkbox"/> Manufacturer <input type="checkbox"/> Administration date <input type="checkbox"/> Ordering Authority <input type="checkbox"/> Administered By <input type="checkbox"/> Administered site and route <input type="checkbox"/> VIS date <input type="checkbox"/> Expiration <input type="checkbox"/> Eligibility <input type="checkbox"/> Funding 	Rotateq <ul style="list-style-type: none"> <input type="checkbox"/> NDC <input type="checkbox"/> Lot # <input type="checkbox"/> Dose <input type="checkbox"/> Manufacturer <input type="checkbox"/> Administration date <input type="checkbox"/> Ordering Authority <input type="checkbox"/> Administered By <input type="checkbox"/> Administered site and route <input type="checkbox"/> VIS date <input type="checkbox"/> Expiration <input type="checkbox"/> Eligibility <input type="checkbox"/> Funding 	Prevnar 13 <ul style="list-style-type: none"> <input type="checkbox"/> NDC <input type="checkbox"/> Lot # <input type="checkbox"/> Dose <input type="checkbox"/> Manufacturer <input type="checkbox"/> Administration date <input type="checkbox"/> Ordering Authority <input type="checkbox"/> Administered By <input type="checkbox"/> Administered site and route <input type="checkbox"/> VIS date <input type="checkbox"/> Expiration <input type="checkbox"/> Eligibility <input type="checkbox"/> Funding 												

Test Scenario 2: Adult Administration

Description: An adult is seen at a clinic. New vaccines are administered and documented.

Test Steps		Expected Result
2.1_VXU_Send_Z22	<p>Description: A 65-year-old male comes in for two vaccinations. A clinic staff member collects basic patient demographic information including name, date of birth and sex.</p> <p>A clinic provider reviews the patient's vaccination history and determines -</p> <ul style="list-style-type: none"> • Patient had “chicken pox” as a child • Patient has private insurance <p>The patient is given 2 Vaccine Information Sheets (VIS) to review. After reading them, he agrees to receive all the vaccinations scheduled. They indicate that reminders and recalls can be sent.</p> <p>Appropriate doses of Pneumococcal Conjugate 23 (Pneumovax 23), and Zoster Recombinant (Shingrix) are selected from the clinic's stock of private funded vaccines. A clinician prepares and administers the doses to the patient and then enters the new vaccine data into the EHR and transmits it to the NCIR.</p> <p>Test Objectives:</p> <ul style="list-style-type: none"> • Create an administration message containing new administrations (using NDC) • Support for Responsible Person • Support for VIS • Support for funding source 	<p>The Immunization update (VXU - Z22 profile) message containing all the expected data elements is sent to the NCIR. The expected data is successfully updated in the NCIR system. The live vaccines are documented with NDC codes and historical with CVX codes. The populated codes in the message match the NCIR specifications.</p>

2.1_ack_Rec_Z23	Description: The NCIR returns a positive acknowledgement message indicating that no errors were found while filing the message. Test Objectives: <ul style="list-style-type: none">No Test Objectives	Acknowledgement message indicating no errors is sent from the NCIR.
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Exit Criteria: 2. ☐ **Adult administration:** Verify Patient and responsible person demographics, historical and administered vaccinations data.

Checklist			
MSH 10:	MSH 10:	MSH 10:	MSH 10:
Patient <input type="checkbox"/> First name <input type="checkbox"/> Last name <input type="checkbox"/> Date of Birth <input type="checkbox"/> Gender <input type="checkbox"/> Mother’s maiden name <input type="checkbox"/> Ethnicity <input type="checkbox"/> Race <input type="checkbox"/> Patient Status Responsible Person <input type="checkbox"/> First name <input type="checkbox"/> Last name <input type="checkbox"/> Address <input type="checkbox"/> Phone number <input type="checkbox"/> Relationship type <input type="checkbox"/> Reminder & recall <input type="checkbox"/> Language	Pneumovax 23 <input type="checkbox"/> NDC <input type="checkbox"/> Lot # <input type="checkbox"/> Dose <input type="checkbox"/> Manufacturer <input type="checkbox"/> Administration date <input type="checkbox"/> Ordering Authority <input type="checkbox"/> Administered By <input type="checkbox"/> Administered site and route <input type="checkbox"/> VIS date <input type="checkbox"/> Expiration <input type="checkbox"/> Eligibility <input type="checkbox"/> Funding	Shingrix <input type="checkbox"/> NDC <input type="checkbox"/> Lot # <input type="checkbox"/> Dose <input type="checkbox"/> Manufacturer <input type="checkbox"/> Administration date <input type="checkbox"/> Ordering Authority <input type="checkbox"/> Administered By <input type="checkbox"/> Administered site and route <input type="checkbox"/> VIS date <input type="checkbox"/> Expiration <input type="checkbox"/> Eligibility <input type="checkbox"/> Funding	Prevnar 13 <input type="checkbox"/> NDC <input type="checkbox"/> Lot # <input type="checkbox"/> Dose <input type="checkbox"/> Manufacturer <input type="checkbox"/> Administration date <input type="checkbox"/> Ordering Authority <input type="checkbox"/> Administered By <input type="checkbox"/> Administered site and route <input type="checkbox"/> VIS date <input type="checkbox"/> Expiration <input type="checkbox"/> Eligibility <input type="checkbox"/> Funding

Test Scenario 3: Update to immunization and Responsible party demographic data

Description: A child (infant) is seen at a clinic. The NCIR can process the administration message but finds a soft error (warning) which it returns in the acknowledgement message. A previously documented vaccination is updated to correct inaccurate information.

Test Steps - 1		Expected Result
3.1_VXU_Send_Z22	<p>Description: A 15-month-old female infant is brought to a clinic for a well child visit by her mother. A clinic staff member collects basic patient demographic information including name, date of birth and sex.</p> <p>A clinic provider reviews the patient's vaccination history and determines -</p> <ul style="list-style-type: none"> • Child needs Engerix-B Peds, Vaqta-Peds 2 dose, IPOL, Prevnar 13, and Infanrix vaccinations. • Patient has private insurance <p>The parents are given 5 Vaccine Information Sheets (VIS) to review. After reading them, they agree that the child should receive all the vaccinations recommended. They indicate that reminders and recalls can be sent.</p> <p>Appropriate doses are selected from the clinic's stock of private funded vaccines. A clinician prepares and administers the doses to the patient and then enters the vaccine data into the EHR and transmits it to the NCIR.</p> <p>Test Objectives:</p> <ul style="list-style-type: none"> • Create an administration message containing new administrations (using NDC) • Support for Responsible Person • Support for VIS • Support for funding source • Ability to review error/warnings in acknowledgement and update immunizations 	<p>The Immunization update (VXU - Z22 profile) message containing all the expected data elements is sent to the NCIR per the instructions provided in the test steps. The expected data is successfully updated in the NCIR system. The live vaccines are documented with NDC codes and historical with CVX codes. The populated codes in the message match the NCIR specifications.</p>

3.1_ack_Rec_Z23	<p>Description: The NCIR returns acknowledgement message with warnings related to lot number and manufacturer.</p> <p>Note: Take UI screenshot of Responsible Person demographic data and vaccines for inclusion in documentation, before moving to next step.</p> <p>Test Objectives:</p> <ul style="list-style-type: none"> No Test Objectives 	Acknowledgement message with warnings related to lot number and manufacturer are sent from the NCIR.
Test Steps - 2		Expected Result
3.1_VXU_Send_Z22	<p>After documenting vaccinations for the patient, the clinician recognizes that an error was made in documenting -</p> <ul style="list-style-type: none"> Responsible Person address Vaccine information – <ul style="list-style-type: none"> Engerix-B Peds lot number Vaqta-Peds 2 dose manufacturer during data entry. <p>She updates the responsible person address, Engerix-B Peds lot number and Vaqta-Peds 2 dose manufacturer data in the EHR and transmits it to the NCIR.</p>	The Immunization update (VXU - Z22 profile) message containing all the expected data elements is sent to the NCIR per the instructions provided in the test steps. The expected data is successfully updated in the NCIR system. The live vaccines are documented with NDC codes and historical with CVX codes. The populated codes in the message match the NCIR specifications.
3.1_ack_Rec_Z23	<p>Description: The NCIR returns acknowledgement message with warnings related to lot and manufacturer.</p> <p>Test Objectives:</p> <ul style="list-style-type: none"> No Test Objectives 	Acknowledgement message indicating no errors is sent from the NCIR.

Exit Criteria: 3. ☐ **Update to immunization and Responsible Person demographic data** Verify Patient and Responsible Person demographics, historical and administered vaccinations, corrective actions taken for Engerix-B Peds and Vaqta Peds 2 dose

Checklist for step 1:

MSH 10:	MSH 10:	MSH 10:	MSH 10:
Patient <input type="checkbox"/> First name <input type="checkbox"/> Last name <input type="checkbox"/> Date of Birth <input type="checkbox"/> Gender <input type="checkbox"/> Mother's maiden name <input type="checkbox"/> Ethnicity <input type="checkbox"/> Race <input type="checkbox"/> Patient Status Responsible Person <input type="checkbox"/> First name <input type="checkbox"/> Last name <input type="checkbox"/> Address <input type="checkbox"/> Phone number <input type="checkbox"/> Relationship type <input type="checkbox"/> Reminder & recall <input type="checkbox"/> Language	Engerix-B Peds <input type="checkbox"/> NDC <input type="checkbox"/> Lot # <input type="checkbox"/> Dose <input type="checkbox"/> Manufacturer <input type="checkbox"/> Administration date <input type="checkbox"/> Ordering Authority <input type="checkbox"/> Administered By <input type="checkbox"/> Administered site and route <input type="checkbox"/> VIS date <input type="checkbox"/> Expiration <input type="checkbox"/> Eligibility <input type="checkbox"/> Funding	Vaqta-Peds 2 dose <input type="checkbox"/> NDC <input type="checkbox"/> Lot # <input type="checkbox"/> Dose <input type="checkbox"/> Manufacturer <input type="checkbox"/> Administration date <input type="checkbox"/> Ordering Authority <input type="checkbox"/> Administered By <input type="checkbox"/> Administered site and route <input type="checkbox"/> VIS date <input type="checkbox"/> Expiration <input type="checkbox"/> Eligibility <input type="checkbox"/> Funding	IPOL/Prevnar 13 <input type="checkbox"/> NDC <input type="checkbox"/> Lot # <input type="checkbox"/> Dose <input type="checkbox"/> Manufacturer <input type="checkbox"/> Administration date <input type="checkbox"/> Ordering Authority <input type="checkbox"/> Administered By <input type="checkbox"/> Administered site and route <input type="checkbox"/> VIS date <input type="checkbox"/> Expiration <input type="checkbox"/> Eligibility <input type="checkbox"/> Funding

Checklist for step 2:

MSH 10:	MSH 10:	MSH 10:	
Responsible Person <input type="checkbox"/> Address (updated)	Engerix-B Peds <input type="checkbox"/> Lot # (updated)	Vaqta-Peds 2 dose <input type="checkbox"/> Manufacturer (updated)	

Test Scenario 4: Document Client comment (Contraindications, disease with presumed immunity, disease with serological evidence of immunity reaction)

Description: A child (infant) is seen at a clinic. The patient's father presents information to the clinician for allergies, immunities and reactions to past immunizations as well as exposure to rabies. The clinic administers the needed immunizations and adds client comments, contraindications and allergies.

Test Steps		Expected Result
4.1_VXU_Send_Z22	<p>Description: An 18-month-old male is brought to a clinic for routine immunizations by his father. A clinic staff member collects basic patient demographic information including name, date of birth and sex.</p> <p>A clinic provider reviews information provided by the patient's father –</p> <ul style="list-style-type: none"> • Child has been exposed to Rabies • Child has an allergy to Gelatin (anaphylactic) • Child has Immunity to Varicella (laboratory-tested confirmation) • Child had Encephalopathy within 7 days of previous DTP/aP dose <p>The patient is given the scheduled immunizations and the identified risks are appropriately recorded and sent to the immunization registry.</p>	<p>The Immunization update (VXU - Z22 profile) message containing the expected client comments and other data elements is sent to the NCIR. The expected data is successfully updated in the NCIR system. The populated codes in the message match the NCIR specifications.</p>
4.1_ack_Rec_Z23	<p>Description: The NCIR returns a positive acknowledgement message indicating that no errors were found while filing the message.</p> <p>Test Objectives:</p> <ul style="list-style-type: none"> • No Test Objectives 	<p>Acknowledgement message indicating no errors is sent from the NCIR.</p>

Exit Criteria: 4. ☐ **Document Client comment (Contraindications, disease with presumed immunity, disease with serological evidence of immunity reaction)** Patient and Responsible Person demographics, historical and administered vaccinations, client comments, contraindications and allergies.

Checklist		
MSH 10:	MSH 10:	MSH 10:
Patient <input type="checkbox"/> First name <input type="checkbox"/> Last name <input type="checkbox"/> Date of Birth <input type="checkbox"/> Gender <input type="checkbox"/> Mother's maiden name <input type="checkbox"/> Ethnicity <input type="checkbox"/> Race <input type="checkbox"/> Patient Status Responsible Person <input type="checkbox"/> First name <input type="checkbox"/> Last name <input type="checkbox"/> Address <input type="checkbox"/> Phone number <input type="checkbox"/> Relationship type <input type="checkbox"/> Reminder & recall <input type="checkbox"/> Language	IPOL <input type="checkbox"/> NDC <input type="checkbox"/> Lot # <input type="checkbox"/> Dose <input type="checkbox"/> Manufacturer <input type="checkbox"/> Administration date <input type="checkbox"/> Ordering Authority <input type="checkbox"/> Administered By <input type="checkbox"/> Administered site and route <input type="checkbox"/> VIS date <input type="checkbox"/> Expiration <input type="checkbox"/> Eligibility <input type="checkbox"/> Funding	Client comments <input type="checkbox"/> Rabies exposure <input type="checkbox"/> Allergy to gelatin <input type="checkbox"/> Immunity to Varicella <input type="checkbox"/> Encephalopathy w/in 7 days of previous DTP/aP

Test Scenario 5: Document Parental Refusal and Religious Exemption

Description: A child is brought in by their mother. New vaccinations are administered but one vaccination is refused by the parents while another falls under religious objection.

Test Steps		Expected Result
5.1_VXU_Send_Z22	<p>Description: A five-year-old male is brought to a clinic for a well child visit by his mother. A clinic staff member collects basic patient demographic information including name, date of birth and sex.</p> <p>A clinic provider reviews the patient's vaccination history and determines –</p> <ul style="list-style-type: none"> • Child requires MMR II, Vaqta-Peds 2 dose, Kinrix and Varicella • The child is covered by insurance and does not qualify for Vaccine for Children (VFC) supplied vaccines. <p>The mother is given the appropriate Vaccine Information Sheets (VIS) to review. After reading them, she agrees that the child should receive Kinrix vaccines, but refuses the Varicella vaccine and has religious objections to the MMR II.</p> <p>Appropriate doses are selected from the clinic's stock of privately funded vaccines. A clinician prepares and administers the doses to the patient and then enters the data into the EHR and transmits it to the NCIR.</p> <p>Test Objectives:</p> <ul style="list-style-type: none"> • Support for an immunization refusal • Support for religious exemption 	<p>The Immunization update (VXU - Z22 profile) message containing the expected parental refusal and religious exemption and other data elements is sent to the NCIR. The expected data is successfully updated in the NCIR system. The populated codes in the message match the NCIR specifications.</p>

5.1_ack_Rec_Z23	<p>Description: The NCIR returns a positive acknowledgement message indicating that no errors were found while filing the message.</p> <p>Test Objectives:</p> <ul style="list-style-type: none"> No Test Objectives 	Acknowledgement message indicating no errors is sent from the NCIR.
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Exit Criteria: 5. ☐ **Document Parental Refusal and Religious Exemption:** Patient and responsible person demographics, historical and administered vaccinations, refusals and religious exemption.

Checklist			
MSH 10:	MSH 10:	MSH 10:	MSH 10:
<p>Patient</p> <p><input type="checkbox"/> First name</p> <p><input type="checkbox"/> Last name</p> <p><input type="checkbox"/> Date of Birth</p> <p><input type="checkbox"/> Gender</p> <p><input type="checkbox"/> Mother's maiden name</p> <p><input type="checkbox"/> Ethnicity</p> <p><input type="checkbox"/> Race</p> <p><input type="checkbox"/> Patient Status</p> <p>Responsible Person</p> <p><input type="checkbox"/> First name</p> <p><input type="checkbox"/> Last name</p> <p><input type="checkbox"/> Address</p> <p><input type="checkbox"/> Phone number</p> <p><input type="checkbox"/> Relationship type</p> <p><input type="checkbox"/> Reminder & recall</p> <p><input type="checkbox"/> Language</p>	<p>Kinrix</p> <p><input type="checkbox"/> NDC</p> <p><input type="checkbox"/> Lot #</p> <p><input type="checkbox"/> Dose</p> <p><input type="checkbox"/> Manufacturer</p> <p><input type="checkbox"/> Administration date</p> <p><input type="checkbox"/> Ordering Authority</p> <p><input type="checkbox"/> Administered By</p> <p><input type="checkbox"/> Administered site and route</p> <p><input type="checkbox"/> VIS date</p> <p><input type="checkbox"/> Expiration</p> <p><input type="checkbox"/> Eligibility</p> <p><input type="checkbox"/> Funding</p>	<p>Varicella</p> <p><input type="checkbox"/> Parental refusal</p>	<p>MMR II</p> <p><input type="checkbox"/> Religious objection</p>

Test Scenario 6: Query for a child

Description: A child is brought to the provider clinic for immunizations. The provider clinic queries the NCIR for patient information.

Test Steps		Expected Result
6.1_QBP_Send_Z44	<p>Description: A child (infant) is brought to the clinic by their mother for scheduled immunizations. A clinic staff member collects basic patient demographic information including name, date of birth and sex. After the information has been entered into the provider's EHR, the clinical staff member will query the NCIR for that existing patient data.</p> <p>Test Objectives:</p> <ul style="list-style-type: none"> No Test Objectives 	The query requesting for the immunization history (QBP – Z44 profile) is sent to the NCIR
6.1_RSP_Rec_Z42	<p>Description: The NCIR response contains up-to-date information for the patient's previous vaccinations as well as client comments, refusals and religious objections. Recommendations and forecasting info are also provided in the NCIR response.</p> <p>Test Objectives:</p> <ul style="list-style-type: none"> Ability of provider to receive and absorb into their system: vaccination data, client comments/ contraindications, refusals and religious exemptions, recommendations and forecasting. 	The response message (RSP – Z42) with patient's immunization history is sent from the NCIR.

Exit Criteria: 6. ☐ **Query for a child:** Received data from NCIR for patient and responsible person demographics, historical and administered vaccinations, client comments, contraindications, allergies, refusals, religious exemptions, and recommendation/forecasting.

Checklist			
MSH 10:	MSH 10:	MSH 10:	MSH 10:
Patient <input type="checkbox"/> First name <input type="checkbox"/> Last name <input type="checkbox"/> Date of Birth <input type="checkbox"/> Gender <input type="checkbox"/> Mother's maiden name <input type="checkbox"/> Ethnicity <input type="checkbox"/> Race <input type="checkbox"/> Patient Status Responsible Person <input type="checkbox"/> First name <input type="checkbox"/> Last name <input type="checkbox"/> Address <input type="checkbox"/> Phone number <input type="checkbox"/> Relationship type <input type="checkbox"/> Reminder & recall <input type="checkbox"/> Language <input type="checkbox"/> Reminder & recall	Vaccinations <input type="checkbox"/> Engerix-B peds <input type="checkbox"/> Pentacel	Client comments <input type="checkbox"/> Allergy to Gelatin <input type="checkbox"/> Immunity to mumps Refusal & Religious objection <input type="checkbox"/> Parental refusal of Varicella <input type="checkbox"/> Religious exemption of Pneumococcal	Recommendations & forecasting <input type="checkbox"/> Received info

Include screenshots:

Test Scenario 7: Query for Adult

Description: An adult patient comes to the provider clinic for immunizations. The provider clinic queries the NCIR for patient information.

Test Steps		Expected Result
7.1_QBP_Send_Z44	<p>Description: An adult male comes into the provider for immunizations and a yearly physical. A clinic staff member collects basic patient demographic information including name, date of birth and gender. After the information has been entered into the provider's EHR, the clinical staff member will query the NCIR for existing patient data.</p> <p>Test Objectives:</p> <ul style="list-style-type: none"> No Test Objectives 	The query requesting for the immunization history (QBP – Z44 profile) is sent to the NCIR
7.1_RSP_Rec_Z42	<p>Description: The NCIR response contains information for the patient as well as vaccinations previously received.</p> <p>Test Objectives:</p> <ul style="list-style-type: none"> Ability of provider to receive and absorb into their system: vaccination data, recommendations and forecasting. 	The response message (RSP – Z42) with patient's immunization history is sent from the NCIR.

Exit Criteria: 7. ☐ **Query for an adult:** Received data from NCIR for patient and responsible person demographics, historical and administered vaccinations, and recommendation/forecasting.

Checklist			
MSH 10:	MSH 10:	MSH 10:	MSH 10:
Patient <input type="checkbox"/> First name <input type="checkbox"/> Last name <input type="checkbox"/> Date of Birth <input type="checkbox"/> Gender <input type="checkbox"/> Mother's maiden name <input type="checkbox"/> Ethnicity <input type="checkbox"/> Race <input type="checkbox"/> Patient Status Responsible Person <input type="checkbox"/> First name <input type="checkbox"/> Last name <input type="checkbox"/> Address <input type="checkbox"/> Phone number <input type="checkbox"/> Relationship type <input type="checkbox"/> Reminder & recall <input type="checkbox"/> Language	Vaccinations <input type="checkbox"/> Shingrix <input type="checkbox"/> Pneumovax 23	Recommendations & forecasting <input type="checkbox"/> Received info	

Include screenshots:

Test Scenario 8: Query for a patient that does not exist in the NCIR

Description: A new patient comes into the provider office for vaccinations. The provider queries the NCIR for patient information

Test Steps		Expected Results
8.1_QBP_Send_Z44	<p>Description: A new patient comes in for vaccinations. A clinic staff member collects basic patient demographic information including name, date of birth and gender. Once the information is entered into the provider EHR the clinical staff member will query for patient data.</p> <p>Test Objectives:</p> <ul style="list-style-type: none"> No Test Objectives 	The query requesting for the immunization history (QBP – Z44 profile) is sent to the NCIR
8.1_RSP_Rec_Z33	<p>Description: The response received from the NCIR indicates that no patient information was found for the parameters supplied by the provider.</p> <p>Test Objectives:</p> <p>Ability to receive and view “no match” warning returned from NCIR.</p>	The response message (RSP – Z33) with no patient found is sent from the NCIR.

Exit Criteria: 8. ☐ **Query for a patient that does not exist in the NCIR:** Response from NCIR indicates no patient match exists given specified parameters.

Checklist:

MSH 10:

☐ No patient data returned

Include screenshot:

Test Scenario 9: Query for a patient which returns multiple patients

Description: A patient visits their provider for scheduled vaccinations. When the provider queries the NCIR they receive multiple patient matches.

Test Steps		Expected Results
9.1_QBP_Send_Z44	<p>Description: A patient comes in for scheduled vaccinations. A clinic staff member collects basic patient demographic information including name, date of birth and gender. After the information has been entered into the provider EHR, the clinical staff member will query the NCIR for existing patient data.</p> <p>Test Objectives:</p> <ul style="list-style-type: none"> No Test Objectives 	The query requesting for the immunization history (QBP – Z44 profile) is sent to the NCIR
9.1_RSP_Rec_Z31	<p>Description: The response received from NCIR should either a) display all potential patient matches or b) generate a warning indicating too many matches were encountered.</p> <p>Test Objectives:</p> <ul style="list-style-type: none"> Ability to receive multiple matches or view warning response from NCIR. 	The response message (RSP – Z31) with multiple possible matches is sent from the NCIR.

Exit Criteria: 9. ☐ **Query for a patient which returns multiple patients:** Response from NCIR listed multiple possible matches for specified parameters OR response from NCIR indicated more results were returned that could be displayed.

Checklist:

MSH 10:

☐ Multiple, possible matches returned OR ☐ Warning indicating too many possible matches

NCIR Errors and Warnings

VXU Errors and Warnings Information

Note-This is a supplemental document that provides information regarding VXU - Z22/ACK - Z23 errors and warnings. For more details or specifications, please refer to the North Carolina Local Implementation Guide (NCLIG).

Provider system will receive real time response Z23-ACK message in response to the Z22-VXU message sent to the NCIR system. Providers need a method to capture and display the acknowledgement (ACK messages) returned from the NCIR (in response to VXU messages). The response message may contain an error or warning based on the validation in the NCIR.

Providers need a method to capture and display the acknowledgement (ACK messages) returned from the NCIR. The NCIR suggest that EHRs or Health Systems make this available in real time and ask the user to review before closing the chart for the patient. Doing so is also a best practice and avoids inventory accountability errors and other errors needing work later.

Three types of acknowledgements are returned from the NCIR. They are –

- Acknowledgement to indicate that the message processing was “Successful”. No further action is needed for this.
- Acknowledgement to indicate transaction was rejected because of an “Error”. Some examples of this are a required field like First Name is missing or birth date is invalid or HL7 message construction was incorrect (like say MSH segment was missing). Acknowledgements that contain “Errors” usually require an IT fix by your EHR vendor and need action from EHR vendor. The “Error” type acknowledgement should be rare in production.
- Acknowledgement to indicate that the transaction was partially processed because of a “Warning”. The warnings are usually user errors but sometimes may need EHR vendor involvement to fix. The warnings usually need to be reviewed by user (in real time or at least once a day) to avoid inventory mismatches or data errors. An example of warning would be “No match found for lot number” (user error) or invalid CVX code causing a dose to be not processed (EHR vendor fix may be needed).

Below is a list of possible warnings and errors, their severity, whether they are technical or clinical, and a brief explanation of the issue. The Segment column list out the HL7 message segment pertaining to the error/warning message. The Message ID - Identifies the HL7 (communications) error code. Please refer to HL7 Table 0357 in NCLIG for error code details. The Location column identifies the location in a message related to the identified error.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
ORC	100	(Historical) ORC3 value Empty or Null: Immunization rejected.	ORC RE 1	Warning		No value was sent in the Filler Order Number segment.	Provider should send their immunization identifier in this field. If a refusal/religious exemption is sent, value must be "9999".
ORC	100	(Inventory) ORC3 value Empty or Null: Immunization rejected.	ORC RE 1	Warning		No value was sent in the Filler Order Number segment.	Provider should send their immunization identifier in this field. If a refusal/religious exemption is sent, value must be "9999".
OBX	100	DEDUCT ERROR - EACH RXA SEGMENT REQUIRES AN OBX SEGMENT SPECIFYING VACCINES PURCHASED WITH INFORMATION.	OBX 1 CE 30963-3^Vaccine purchased with^LN 1 VXC2^State Funds^CDCPHINVS	Warning		Each immunization needs to contain an Observation Result Segment (OBX) containing info of how the vaccine was purchased. The options for this are "State Funds" or "Private Funds."	Verify that the administered vaccine had a selected funding source, state or private.
MSH	100	Invalid Message: "+preprocessor.getSingleRequestWithSegmentBefore MshId()+ " segment before MSH	N/A	Error	Technical	A segment is above the MSH segment.	NCIR requires that MSH is the first segment in VXU messages.
MSH	100	Invalid Message: MSH segment is missing	N/A	Error	Technical	The Message Header Segment is missing in VXU message.	All VXU messages require an MSH segment. Confirm all HL7 messages being sent contain an MSH segment.
MSH	100	Invalid Message: MSH segment is missing. Encountered "+which Class+" without first encountering MSH Segment	N/A	Error	Technical	The Message Header Segment is missing in VXU message.	All VXU messages require an MSH segment. Confirm all HL7 messages being sent contain an MSH segment.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
NK1	100	Invalid Message: NK1 segment before PID segment.	N/A	Error	Technical	The NK1 segment precedes the PID segment.	The NCIR requires any NK1 information to follow the PID segments.
PD1	100	Invalid Message: Only one PD1 allowed per message.	N/A	Error	Technical	The immunization message can only have one PD1 segment related to the patient.	Verify HL7 message contains all required and necessary segments to transmit an immunization.
PID	100	Invalid Message: Only one PID allowed per message.	N/A	Error	Technical	The immunization message identified more than one patient, using multiple PID segments.	Verify the HL7 message has only one PID segment.
ORC	100	Invalid Message: ORC segment before PID segment.	N/A	Error	Technical	The ORC segment precedes the PID segment.	The NCIR requires any ORC information to follow the NK1 segments
ORC	100	Invalid Message: ORC segment missing subsequent RXA segment.	N/A	Error	Technical	The immunization ORC segment has no corresponding RXA segment.	Verify HL7 message contains all required and necessary segments to transmit an immunization.
PD1	100	Invalid Message: PD1 segment before PID segment.	N/A	Error	Technical	The PD1 segment cannot precede the PID segment.	Verify HL7 message contains all required and necessary segments to transmit an immunization.
PID	100	Invalid Message: PID segment is missing.	N/A	Error	Technical	No patient information is found in the message, PID segment is missing.	Verify the HL7 message contains a PID segment identifying the patient.
PID	100	Invalid Message: PID segment is missing.	N/A	Error	Technical	No patient information is found in the message, PID segment is missing.	Verify the HL7 message contains a PID segment identifying the patient.
Miscellaneous - Message ACK	100	MESSAGE REJECTED - ALL SEGMENTS INVALID	N/A	Error	Technical	No valid segments present in HL7.	Contact your NCIR Technical Resource

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
PID	100	MESSAGE REJECTED - MESSAGE MUST HAVE ONE PID SEGMENT.	N/A	Error	Technical	HL7 message must contain one PID segment. If no PID is submitted patient cannot be identified.	Verify the HL7 message contains a PID segment identifying the patient.
PID	100	MESSAGE REJECTED - MESSAGE MUST HAVE ONE PID SEGMENT.	N/A	Error	Technical	HL7 message must contain one PID segment. If no PID is submitted patient cannot be identified.	Verify the HL7 message contains a PID segment identifying the patient.
NK1	100	MESSAGE REJECTED - NK1 SEGMENT BEFORE PID SEGMENT.	N/A	Error	Technical	The NK1 segment precedes the PID segment.	The NCIR requires any NK1 information to follow the PID segments.
PD1	100	MESSAGE REJECTED - ONLY ONE PD1 SEGMENT ALLOWED PER MESSAGE.	N/A	Error	Technical	The immunization message can only have one PD1 segment related to the patient.	Verify HL7 message contains all required and necessary segments to transmit an immunization.
PID	100	MESSAGE REJECTED - ONLY ONE PID SEGMENT ALLOWED PER MESSAGE.	N/A	Error	Technical	The immunization message identified more than one patient, using multiple PID segments.	Verify the HL7 message has only one PID segment.
PID	100	MESSAGE REJECTED - ONLY ONE PID SEGMENT ALLOWED PER MESSAGE.	N/A	Error	Technical	The immunization message identified more than one patient, using multiple PID segments.	Verify the HL7 message has only one PID segment.
RXA	100	MESSAGE REJECTED - ONLY ONE RXA SEGMENT PER ORC SEGMENT ALLOWED.	N/A	Error		More than one RXA was submitted related to a single ORC.	Each RXA requires its own ORC. Verify HL7 message contains all required and necessary segments to transmit an immunization.
RXR	100	MESSAGE REJECTED - ONLY ONE RXR SEGMENT PER RXA SEGMENT ALLOWED.	N/A	Error	Technical	Only one route of administration can be related to an RXA segment.	Verify HL7 message contains all required and necessary segments to transmit an immunization.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
ORC	100	MESSAGE REJECTED - ORC SEGMENT BEFORE PID SEGMENT.	N/A	Error	Technical	The ORC segment precedes the PID segment.	The NCIR requires any ORC information to follow the NK1 segments
ORC	100	MESSAGE REJECTED - ORC SEGMENT MUST BE ASSOCIATED WITH AN RXA SEGMENT.	N/A	Error	Technical	The immunization ORC segment has no corresponding RXA segment.	Verify HL7 message contains all required and necessary segments to transmit an immunization.
PD1	100	MESSAGE REJECTED - PD1 SEGMENT BEFORE PID SEGMENT	N/A	Error	Technical	The PD1 segment cannot precede the PID segment.	Verify HL7 message contains all required and necessary segments to transmit an immunization.
RXA	100	MESSAGE REJECTED - ONLY ONE RXA SEGMENT PER ORC SEGMENT ALLOWED.	N/A	Error		More than one RXA was submitted related to a single ORC.	Each RXA requires its own ORC. Verify HL7 message contains all required and necessary segments to transmit an immunization.
RXA	100	MESSAGE REJECTED - ONLY ONE RXA SEGMENT PER ORC SEGMENT ALLOWED.	N/A	Error		More than one RXA was submitted related to a single ORC.	Each RXA requires its own ORC. Verify HL7 message contains all required and necessary segments to transmit an immunization.
RXA	100	MESSAGE REJECTED - ONLY ONE RXA SEGMENT PER ORC SEGMENT ALLOWED.	N/A	Error		More than one RXA was submitted related to a single ORC.	Each RXA requires its own ORC. Verify HL7 message contains all required and necessary segments to transmit an immunization.
RXR	100	MESSAGE REJECTED - RXR SEGMENT BEFORE ORC SEGMENT.	N/A	Error	Technical	The RXR segment may not precede the ORC segment.	Verify that the RXR segment follows the RXA segment.
RXR	100	MESSAGE REJECTED - RXR SEGMENT BEFORE PID SEGMENT.	N/A	Error	Technical	The RXR segment may not precede the PID segment.	Verify that the RXR segment follows the RXA segment.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
RXR	100	MESSAGE REJECTED - RXR SEGMENT BEFORE RXA SEGMENT.	N/A	Error	Technical	The RXR segment may not precede the RXA segment.	Verify that the RXR segment follows the RXA segment.
PD1	100	PD1 is out of sequence. PD1 is ignored and message processed.	N/A	Error	Technical	The PD1 segment sequence is incorrect and will be ignored.	Verify the PD1 segment is in the correct sequence.
RXA	101	(Historical) RXA05 segment does not contain any valid data.	10^Polio-Inject^CVX^49281-0860-88^IPOL^NDC	Error		RXA-5.1-3 and/or RXA-5.4-6 do not contain any valid data.	Verify the immunization information being sent in RXA-5 matches data from NCIR or CDC.
RXR	101	(Inventory) RXR-1: Invalid or Unknown Route	C38305^TRANSDERMAL^NCIT	Warning		The administered vaccine route was an invalid selection when compared to the NCIR route table.	Verify that a valid route of administration was selected for the immunization
RXR	101	(Inventory) RXR-1: Valid Route was not provided	C38305^TRANSDERMAL^NCIT	Warning	Clinical	An immunization was given, and the route was invalid (Nasal selected when intradermal was administered)	Verify the route selected is appropriate for the immunization given.
RXR	101	(Inventory) RXR-2: Invalid or Unknown Administration Site	LA^Left Arm^HL70163	Warning	Clinical	The site the immunization was given was not a value recognized by the NCIR	Verify that location of the immunization (right arm, left arm) is valid and included.
RXR	101	(Inventory) RXR-2: Valid Administration Site was not provided	LA^Left Arm^HL70163	Warning	Clinical	An immunization was given, and the route was invalid (nares selected when left arm was administered)	Verify the site selected is appropriate for the immunization given
RXA	101	(Inventory) RXA05 segment does not contain any valid data.	48^Hib-PRP-T^CVX^49281-0545-05^Acthib^NDC	Warning		The segment containing identifying information about the immunization administered has no valid information.	Verify that the segment follows the formatting presented in the NCLIG (seen in above example).

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
RXA	101	(Refusal/Exemption) RXA05 segment does not contain any valid data	RXA 0 1 20120828 03^MMR^ CVX 999 01^RELIGI OUS EXEMPTION^NIP002^^^ RE 	Warning		The segment containing identifying information about the immunization administered has no valid information.	Verify that the segment follows the formatting presented in the NCLIG (seen in above example).
RXA	101	DEDUCT ERROR - Incoming administering site found for organization provided but is not Active. Immunization processed as Owned Non-deducting.	N/A	Warning		The site sent in RXA-11 is not set to active in the NCIR	Contact the NCIR for assistance.
RXA	101	DEDUCT ERROR - Incoming administering site Not found for organization provided. Immunization processed as Owned Non-deducting.	N/A	Warning		The site sent in RXA-11 is not found in the NCIR	Verify the value being sent in RXA-11 matches the value provided by the NCIR.
RXA	101	DEDUCT ERROR. SITE ID IS REQUIRED FOR INVENTORY DEDUCTION. Immunization processed as Owned Non-deducting.	^^^^^^^^^^^^^^	Warning		The provided value for RXA-11 is missing.	Verify the value for RXA-11, provided by the NCIR, is being included in the RXA-11 segment.
MSH	101	MSH-1: Field separator missing or invalid	MSH ^~& NCIR-SHORT-ORG	Error	Technical	The “ ” is missing in MSH-1.	Verify message being sent is compliant with HL7 formatting.
MSH	101	MSH-10: Message Control-id missing or invalid	MSH ^~& NCIR NCIR-SHORT-ORG NCIR 20121212100101-0500 VXU^V04^VXU_V04 1	Error	Technical	Message control ID, which identifies all messages sent by provider, is missing or invalid.	Verify that EHR system is sending unique MSH-10 segment.
MSH	101	MSH-11: Processing Id missing or invalid	MSH ^~& NCIR NCIR-SHORT-ORG NCIR 20121212100101-0500 VXU^V04^VXU_V04 1 P^	Error	Technical	Processing ID, which identifies location of message, is missing.	The NCIR constrains MSH-11 to “P” for production.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
MSH	101	MSH-2: Encoding Characters missing or invalid.	MSH ^~\&	Error	Technical	MSH-2 determines HL7 components used.	Verify message being sent is compliant with HL7 formatting.
MSH	101	MSH-21: Message Profile Identifier missing or invalid.	VXU^V04^VXU_V04 1 P 2.5.1 ER AL Z22^CDCPHINVS	Error	Technical	MSH-21, which determines type of message received and response message to send, is missing or invalid.	Verify system is sending HL& 2.5.1 v1.5 compatible MSH-21 values.
MSH	101	MSH-4: Sending Facility missing.	MSH ^~\& NCIR 50087- Provider	Error	Technical	This segment identifies the providing organization that is submitting an immunization.	Verify that the NCIR has sent the unique MSH-4 info to the vendor and is being utilized in the MSH-4.
MSH	101	MSH-6: Message not intended for NCIR	MSH ^~\& NCIR NCIR-SHORT- ORG NCIR	Error	Technical	MSH-6 identifies the organization to receive the immunization.	NCIR constrains MSH-6 to "NCIR"
MSH	101	MSH-7: Date/Time required or invalid.	(YYYYMMDDHHMMSS[.S[S[S]]]]+/-ZZZZ)	Error	Technical	Date/time of immunization is in invalid format or missing.	Verify system is sending date/time in HL7 message.
MSH	101	MSH-9: Message Type missing or invalid	MSH ^~\& NCIR NCIR-SHORT- ORG NCIR 20121212100101- 0500 VXU^V04^VXU_V04	Error	Technical	Value required in MSH-9 is missing or an invalid value.	NCIR constrains MSH-9 to "VXU^V04^VXU_V04"
NK1	101	NK1: NEITHER ADDRESS, NOR TELEPHONE SPECIFIED. NK1 SEGMENT IGNORED.	NK1 1 LAST^FIRST^MIDDLE^^^^ L^ MTH^MOTHER^HL70063^^^ 1234 W MAIN ST^ANYTOWN^NC^27850^^M^ ^NC091^^ PRN^PH^^^919^55 51234^^	Warning		No value was received in NK1-4 or NK1-5.	Verify that Next of Kin address and phone number are being sent in NK1-4 and NK1-5.
NK1	101	NK1: NEITHER LAST NAME, ADDRESS, NOR TELEPHONE SPECIFIED. NK1 SEGMENT IGNORED.	NK1 1 LAST^FIRST^MIDDLE^^^^ L^ MTH^MOTHER^HL70063^^^ 1234 W MAIN ST^ANYTOWN^NC^27850^^M^ ^NC091^^ PRN^PH^^^919^55 51234^^	Warning		No value was received in NK1-2.1, NK1-4 and NK1-5.	Verify that Next of Kin last name, address, and phone number are being sent in NK1-2.1, NK1-4 and NK1-5

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
NK1	101	NK1-1: INVALID RESPONSIBLE PERSON ID.	NK1 1 LAST^FIRST^MIDDLE^^^^L^	Warning		A value other than numeric 1-4 was sent in NK1-1.	Use "1" for the first NK1 within the message, "2" for the second, and so forth.
NK1	101	NK1-1: RESPONSIBLE PERSON ID REQUIRED.	NK1 1 LAST^FIRST^MIDDLE^^^^L^	Warning		A numeric value 1-4 is needed in NK1-1.	Use "1" for the first NK1 within the message, "2" for the second, and so forth.
NK1	101	NK1-2: Name was not provided.	NK1 1 LAST^FIRST^MIDDLE^^^^L^ MTH^MOTHER^HL70063^^^^	Warning		The Next of Kin name was not sent in NK1-2.	Verify that the Next of Kin information is completed and being sent in NK1-2.
NK1	101	NK1-3: Relationship missing or invalid. Defaulted to Unknown	NK1 1 LAST^FIRST^MIDDLE^^^^L^ MTH^MOTHER^HL70063^^^^	Warning		The relationship type of the Next of Kin is invalid.	Verify that the Next of Kin values match those provided by the NCIR.
NK1	101	NK1-4: Address missing or invalid	NK1 1 LAST^FIRST^MIDDLE^^^^L^ MTH^MOTHER^HL70063^^^^ 1234 W MAIN ST^^ANYTOWN^NC^27850^^M^ ^NC091^^ ^	Warning		No address or an invalid address was provided for the Next of Kin	Verify that the correct address is being sent in NK1-4.
NK1	101	NK1-4: Invalid Address Type: "+((field==null field.trim().length()==0)?'(blank)':field)+'". Defaulting to M.	NK1 1 LAST^FIRST^MIDDLE^^^^L^ MTH^MOTHER^HL70063^^^^ 1234 W MAIN ST^^ANYTOWN^NC^27850^^M^ ^NC091^^ ^	Warning		The address type "M" is not being sent in the NK1-4.7.	Verify that the NCIR specified "M" for mailing is being sent in NK1-4.7.
NK1	101	NK1-5: NCIR only accepts PRN (Primary residence number)	NK1 1 LAST^FIRST^MIDDLE^^^^L^ MTH^MOTHER^HL70063^^^^ 1234 W MAIN ST^^ANYTOWN^NC^27850^^M^ ^NC091^^ ^PRN^PH^^^919^5551234^^	Warning		A value other than "PRN" was sent in NK1-5.2	Verify that "PRN" value is being sent in NK1-5.2.
NK1	101	NK1-5: Phone number missing or invalid.	NK1 1 LAST^FIRST^MIDDLE^^^^L^ MTH^MOTHER^HL70063^^^^ 1234 W MAIN ST^^ANYTOWN^NC^27850^^M^ ^NC091^^ ^PRN^PH^^^919^5551234^^	Warning		The Next of Kin phone number is missing or in an invalid format	Please include, in correct format, the Next of Kin phone number.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
NK1	101	NK1-5: INVALID TELECOMMUNICATIONS USE CODE.	NK1 1 LAST^FIRST^MIDDLE^^^^L^ MTH^MOTHER^HL70063^^^ 1234 W MAIN ST^^ANYTOWN^NC^27850^^M^ ^NC091^^ ^PRN^PH^^^919^5551234^^	Warning		A value other than "PRN" was sent in NK1-5.2	Verify that "PRN" value is being sent in NK1-5.2.
OBX	101	OBX-1: Set ID – OBX missing.	OBX 1 CE	Warning		This is a required field. Sequential numbers, that do not restart for each ORC/RXA group	Use "1" for the first OBX within the message, "2" for the second, and so forth.
OBX	101	OBX-2: Value Type missing or invalid.	OBX 1 CE	Warning		This is a required field. This field contains the data type which defines the format of the observation value in OBX-5.	Data Exchange accepts CE, TS, NM, DT.
ORC	101	ORC-3: Filler Order Number missing.	ORC RE 1	Warning		No value was sent in the Filler Order Number segment.	Provider should send their immunization identifier in this field. If a refusal/religious exemption is sent, value must be "9999".
PD1	101	PD1-12: Protection indicator defaulted to N.	PD1 02 N	Warning		Controls visibility of records to other organizations	In NCIR, it is not allowed to opt out. This field is always set to N - sharing IS allowed.
PD1	101	PD1-16: Defaulted to A.	PD1 02 N A	Warning		Identifies the status of the client: Active, Inactive, Permanently Deceased. If this field is empty the NCIR defaults to "A."	Verify that you are sending a valid value in PD1-16.
PD1	101	PD1-16: Required field. "+status+" is an invalid value. Defaulted to A.	PD1 02 N A	Warning		Identifies the status of the client: Active, Inactive, Permanently Deceased. If this field value is invalid the NCIR defaults to "A."	Verify that you are sending a valid value in PD1-16.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
PD1	101	PD1-16: Required field. Defaulted to A.	PD1 02 N A	Warning		Identifies the status of the client: Active, Inactive, Permanently Deceased. If this field is empty the NCIR defaults to "A."	Verify that you are sending a valid value in PD1-16.
PID	101	PID-13: INVALID TELECOMMUNICATIONS USE CODE.	^PRN^PH^^^919^5551234^^	Warning		Value expected is "PRN" (Primary residence number)	Use 'PRN' as telecommunication use code.
PID	101	PID-13: NCIR only accepts PRN (Primary residence number).	^PRN^PH^^^919^5551234^^	Warning		Value expected is "PRN" (Primary residence number)	Use 'PRN' as telecommunication use code.
PID	101	PID-13: Phone number missing or invalid.	^PRN^PH^^^919^5551234^^	Warning		Patient phone number is missing or in an invalid format	Verify that the patient phone number is being sent in PID-13 and in the format described in the NCLIG.
PID	101	PID-25: Client born in a multiple birth. Field must be populated	2186-5^Not Hispanic or Latino^HL70189 Y 2	Warning		Relevant when client was born in a multiple birth. Use 1 for the first born, 2 for the second, etc.	If multiple birth scenario, send birth order information in PID-25.
PID	101	PID-29: INVALID DATE OF DEATH. FUTURE DATE.	5551234^^ 2186-5^Not Hispanic or Latino^HL70189 N 1 20130909	Warning		The date of death sent in PID-29 is for a date in the future.	If patient is deceased, send correct date of death.
PID	101	PID-29 : INVALID DATE OF DEATH. PRECEDES BIRTHDATE.	5551234^^ 2186-5^Not Hispanic or Latino^HL70189 N 1 20130909	Warning		Date of death is before patient was born.	Verify that patient is deceased, correct date to after DOB.
PID	101	PID-29: No Death Date is provided.	5551234^^ 2186-5^Not Hispanic or Latino^HL70189 N 1 20130909 Y	Warning		If PID-30 is "Y," but no date of death was provided.	If PID-30 is "Y" then a date of death must be provided in PID-29.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
PID	101	PID-30: Client set as deceased in PD1 segment. Patient Death indicator defaulted to Y	20130909 Y	Warning		If the patient status in PD1-16 is set to "P" for permanently deceased, the value in PID-30 defaults to "Y."	Verify corresponding, correct values are being sent in PD1-16 and PID-30.
PID	101	PID-30: Death date is present. Patient Death indicator defaulted to Y	20130909 Y	Warning		If a date is present in PID-29 then PID-30 will default to "Y"	Verify if patient date of death is needed.
PID	101	PID-5: Patient Name missing or invalid.	PID 1 1234567890^^^^PI^ Last Name^First Name^Middle Name^^^^L^	Error		The PID segment identifying the patient, contains an invalid or missing name.	Verify PID-5.1-3 contains the patient name.
PID	101	PID-5: Patient Name missing or invalid.	PID 1 1234567890^^^^PI^ Last Name^First Name^Middle Name^^^^L^	Error		The PID segment identifying the patient, contains an invalid or missing name.	Verify PID-5.1-3 contains the patient name.
PID	101	PID-6: Mother's Maiden Name invalid.	Last Name^First Name^Middle Name^^^^M^	Warning		The name type code is not valid. Value must be "M."	Correct value in PID-6.7 to "M."
PID	102	PID-6: Please provide mother's maiden name. Field is used in matching process when no other client identifier supplied.	Last Name^First Name^Middle Name^^^^M^	Warning		Mother's maiden name wasn't in HL7 message and isn't already present in NCIR	Send Mother's maiden name in HL7 message.
PID	101	PID-7: Date of birth invalid or missing.	PID 1 1234567890^^^^PI^ Last Name^First Name^Middle Name^^^^^ 20110219	Error		The patient date of birth is missing in PID-7.	Verify the patient date of birth is recorded in PID-7.
PID	101	PID-7: Date of birth invalid or missing.	PID 1 1234567890^^^^PI^ Last Name^First Name^Middle Name^^^^^ 20110219	Error		The patient date of birth is missing in PID-7.	Verify the patient date of birth is recorded in PID-7.
PID	101	PID-8: Invalid value. Defaulted to U.	Last Name^First Name^Middle Name^^^^^ 20110219 F	Warning		A value other than F, M, or U were received in PID-8	Verify values available for PID-8 are F, M, or U.
RXA	101	RXA-03: VACCINE ADMINISTRATION START DATE IS A REQUIRED FIELD.	RXA 0 1 20121219	Error		No value was received to identify the time the immunization was given.	Verify start date of immunization is being sent in RXA-3.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
RXR	101	RXR-1: Route missing or invalid.	C38305^TRANSDERMAL^NCIT	Warning		The administered vaccine route was an invalid selection when compared to the NCIR route table.	Verify that a valid route of administration was selected for the immunization
RXR	101	RXR-2: Valid Administration Site was not provided.	C38305^TRANSDERMAL^NCIT	Warning		An immunization was given, and the route was invalid (Nasal selected when intradermal was administered)	Verify the route selected is appropriate for the immunization given.
RXA	102	(Historical) Empty Values in Both First and Second Triplet; immunization rejected	10^Polio-Inject^CVX^49281-0860-88^IPOL^NDC	Warning		RXA-6 first and second triplet, CVX and NDC, are blank.	Verify that the immunization being administered is populating in the RXA-6 segment.
RXA	102	(Historical) Imm rejected First triplet blank, CVX value in Second triplet: "+adminCode04	10^Polio-Inject^CVX^49281-0860-88^IPOL^NDC	Warning		First triplet is blank and the CVX code was place in the second triplet	Verify the historical vaccine is populating the first triplet with CVX code.
RXA	102	(Inventory) - Empty Manufacture Id Detected	20151226 MSD^Merck^MVX	Warning		RXA-17 segment is empty	Verify that you are sending a value for RXA-17 from the manufacturer tables.
RXA	102	(Inventory) Empty Values in Both First and Second Triplet; immunization rejected	10^Polio-Inject^CVX^49281-0860-88^IPOL^NDC	Warning		RXA-6 first and second triplet, CVX and NDC, are blank.	Verify that the immunization being administered is populating in the RXA-6 segment.
RXA	102	(Inventory) Manufacturer code does not match to Trade Name. processed as Owned Non-deducting.	20151226 MSD^Merck^MVX	Warning		The manufacturer submitted in RXA-17 does not match identified manufacturers for this vaccine.	Verify the manufacturer in RXA-17 matches the vaccine administered.
RXA	102	(Inventory)DEDUCT ERROR. Invalid Manufacturer Code. Immunization processed as Owned Non-deducting	20151226 MSD^Merck^MVX	Warning		The manufacturer submitted in RXA-17 does not match identified manufacturers for this vaccine.	Verify the manufacturer in RXA-17 matches the vaccine administered.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
RXA	102	(INVENTORY) DEDUCT WARNING - Vaccine Lot Expiration Date Invalid	testlot1 20151226	Warning		Identifies the date the lot expires in the YYYYMMDD format. For historical doses, this field may be left blank.	Verify expiration date is correct and in correct format YYYYMMDD.
RXA	102	(Refusal/Exemption) Empty or incomplete values in RXA5 First Triplet; record rejected	RXA 0 1 20120828 03^MMR^ CVX 999 00^PAREN TAL REFUSAL^NIP002^^^ RE	Error		The immunization identified as a refusal/exemption is incomplete or missing in RXA-5.	Verify data sent in RXA-5 is formatted and complete for refusals/exemptions. Refer to page 94 of the NCLIG VXU/ACK for more information.
RXA	102	(Refusal/Exemption) First triplet contains an Invalid CVX code: "+adminCode01+". Record rejected	RXA 0 1 20120828 03^MMR^ CVX 999 00^PAREN TAL REFUSAL^NIP002^^^ RE	Error		The immunization identified as a refusal/exemption is invalid in RXA-5.	Verify CVX data of immunization sent in RXA-5 matches values from NCIR or CDC.
RXA	102	(Refusal/Exemption) Only CVX code is valid entry; record rejected	RXA 0 1 20120828 03^MMR^ CVX 999 00^PAREN TAL REFUSAL^NIP002^^^ RE	Warning		Message for a refusal/exemption contained more than CVX code in RXA-6.	Refusals/exemptions only need CVX info in RXA-6.
OBX	102	DEDUCT ERROR: INVALID OBX SEGMENT - INVALID VACCINES PURCHASED WITH. Immunization processed as Owned Non-deducting.	OBX 1 CE 30963-3^Vaccine purchased with^LN 1 VXC2^State Funds^CDCPHINVS	Warning		The vaccination eligibility does not match the funding code specified in OBX-5	Verify that the eligibility selected for immunization corresponds to the funding information.
RXA	102	DEDUCT ERROR. Administered Units are required. Dose set to owned non-deducting	0.5 ML^MILLILITERS^UCUM	Warning		RXA-7 is blank	Verify a value for RXA-7 is being sent.
RXA	102	DEDUCT ERROR. Invalid Administered Amount. Immunization processed as Owned Non-deducting. RXA-06 not equal to 1 for a CAPS dose	0.5 ML^MILLILITERS^UCUM	Warning		Amount administered does not correspond to predetermined values.	Verify the amount being administered matches documented predetermined amounts.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
RXA	102	DEDUCT ERROR. Lot Number is a required field for inventory deduction. Immunization processed as Owned Non-deducting.	^^^SITE-1234 testlot1	Warning		The immunization lot number wasn't sent in RXA-15	Verify that a lot number is populating in RXA-15
OBX	102	Eligibility Date does not correspond to Immunization Date. Immunization processed as owned/non-deduct.	V02^Medicaid^HL70064 F 20130401	Warning		The date sent in OBX-14 doesn't match the date in RXA-3.	Verify the eligibility date and immunization date match.
OBX	102	Eligibility required. Immunization processed as owned non-deduct.	OBX 2 64994-7^Vaccine fund pgm elig cat^LN 1 V02^Medicaid	Warning		Immunization eligibility wasn't sent in HL7 message.	Verify that an eligibility is being selected for the immunization and sent in the HL7 message.
OBX	102	Empty OBX segment. OBX-3 Observation Id Invalid. Required for Deduct from Inventory Setting to Owned Non Deduct	OBX 1 CE 30963-3^Vaccine purchased with^LN	Warning		OBX-3 contains an invalid, corresponding value.	Verify OBX-3 is being populated with the appropriate value as seen in NCLIG, page 56.
OBX	102	Empty OBX segment. OBX-3 Observation Id Invalid. Required for Deduct from Inventory Setting to Owned Non Deduct	OBX 1 CE 30963-3^Vaccine purchased with^LN	Warning		OBX-3 is empty.	Verify OBX-3 is being populated with the appropriate value as seen in NCLIG, page 56.
Miscellaneous - Message ACK	102	FILE EMPTY OR NOT HL7 FORMAT	N/A	Error	Technical	The immunization submitted contains no data or isn't in the HL7 format.	Contact your NCIR Technical Resource
MSH	102	File Rejected. MSH-12: Version Id missing.	MSH ^~\& NCIR NCIR-SHORT-ORG NCIR 201212 VXU^V04^VXU_V04 1 P^ 2.5.1	Error	Technical	The version ID of the HL7 message is missing.	Verify the version ID, 2.5.1, is being included in MSH-12.
OBX	102	INVALID OBX SEGMENT - CONTRAINDICATION/PRECAUTION LOINC CODE SPECIFIED WITH NO	OBX 1 CE 30945-0^Contraindication^LN 1 91930004^Allergy Egg^SCT^^^	Warning		Contraindication/precaution submitted with incorrect or no OBX-5 information	Verify contraindications/precautions are being sent with

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
		OBSERVATION CODE (OBX-05) SPECIFIED. NO VALUE STORED.					accurate OBX-5 LOINC information.
OBX	102	INVALID OBX SEGMENT - CONTRAINDICATION/PRECAUTION LOINC CODE SPECIFIED WITH NON CONTRA/PRECAUTION OBSERVATION VALUE IN OBX-5.	OBX 1 CE 30945-0^Contraindication^LN 1 91930004^Allergy Egg^SCT^^^	Warning		Contraindication/precaution submitted with non-contra/precaution LOINC code.	Verify contraindications/precautions are being sent with valid LOINC code, see page 125.
OBX	102	INVALID OBX SEGMENT - IMMUNITY LOINC CODE SPECIFIED IN OBX-03 WITH NO IMMUNITY OBSERVATION CODE (OBX-05) SPECIFIED. NO VALUE STORED.	OBX 4 CE 59784-9^Disease with presumed immunity^LN^^^ 1 371111005^Immunity: Measles^SCT^^^	Warning		The corresponding OBX-5 is missing, in relation to OBX-3 LOINC	Verify that OBX-3 is always paired with the appropriate OBX-5.
OBX	102	INVALID OBX SEGMENT - IMMUNITY LOINC CODE SPECIFIED IN OBX-03 WITH NON-IMMUNITY OBSERVATION VALUE IN OBX-05. NO VALUE STORED.	OBX 4 CE 59784-9^Disease with presumed immunity^LN^^^ 1 371111005^Immunity: Measles^SCT^^^	Warning		The corresponding OBX-5 value is not an immunity, in relation to OBX-3 LOINC	Verify that the OBX-5 value is appropriate for Immunity LOINC in OBX-3.
OBX	102	INVALID OBX SEGMENT - INVALID OBSERVATION OBX-5.	OBX 4 CE 59784-9^Disease with presumed immunity^LN^^^ 1 371111005^Immunity: Measles^SCT^^^	Warning		The value in OBX-5 is invalid.	Verify the correct values from NCLIG, page 56.
OBX	102	INVALID OBX SEGMENT - INVALID OBSERVATION VALUE (OBX-05). NO VALUE STORED.	OBX 4 CE 59784-9^Disease with presumed immunity^LN^^^ 1 371111005^Immunity: Measles^SCT^^^	Warning		The value in OBX-5 is invalid.	Verify the correct values from NCLIG, page 56.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
OBX	102	INVALID OBX SEGMENT - INVALID OBSERVATION VALUE. NO VALUE STORED.	N/A	Warning		The value in OBX-5 is invalid.	Verify the correct values from NCLIG, page 56.
OBX	102	INVALID OBX SEGMENT - INVALID VIS DATE. NO VALUE STORED.	OBX 2 TS 29768-9^VIS Publication Date^LN 1 20080110 F	Warning		The VIS date submitted in OBX-5 is invalid.	Check with CDC for accurate VIS date information.
OBX	102	INVALID OBX SEGMENT - LOINC CODE VACCINES PURCHASED WITH SPECIFIED WITH INVALID OR MISSING OBX-05 FUNDING CODE - VACCINES PURCHASED WITH INFORMATION IGNORED.	OBX 1 CE 30963-3^Vaccine purchased with^LN 1 VXC2^State Funds^CDCPHINVS	Warning		The corresponding OBX-5 value is missing.	Verify that the OBX-5 value is appropriate for Immunity LOINC in OBX-3.
OBX	102	INVALID OBX SEGMENT - Patient Eligibility Category LOINC Code Specified In OBX-03 with NON- NCIR Financial Class Value In OBX-05. No Value Stored.	OBX 1 CE 30963-3^Vaccine purchased with^LN 1 VXC2^State Funds^CDCPHINVS	Warning		The corresponding OBX-5 value is missing.	Verify that the OBX-5 value is appropriate for Immunity LOINC in OBX-3.
OBX	102	Invalid OBX segment. OBX-3 Observation Id missing or invalid.	N/A	Warning		The value in OBX-3 is invalid or missing.	Verify system is sending OBX-3 and OBX-5 info based on NCLIG page 56-59
OBX	102	Invalid OBX segment. OBX-5 Observation value missing or invalid	N/A	Warning		The value in OBX-3 is invalid or missing.	Verify system is sending OBX-3 and OBX-5 info based on NCLIG page 56-59
RXA	102	INVALID VACCINE ADMINISTRATION END DATE FORMAT.	RXA 0 1 20121219 20121219	Warning		The format in RXA-4 is invalid.	Use format YYYYMMDD
RXA	102	INVALID VACCINE ADMINISTRATION END	RXA 0 1 20121219 20121219	Warning		Date used in RXA-4 is before date in RXA-3	Verify date is later than date in RXA-3.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
		DATE. ADMINISTRATION END DATE BEFORE ADMINISTRATION DATE.					
MSH	102	LONE MSH SEGMENT IN FILE	N/A	Error	Technical	Incoming immunization contains only an MSH segment.	Verify HL7 message contains all required and necessary segments to transmit an immunization.
MSH	102	MSH-12: The HL7 Version specified in field 12 of the MSH segment in this HL7 file is not supported for this organization.	MSH ^~\& NCIR NCIR-SHORT- ORG NCIR 201212 VXU^V04^ VXU_V04 1 P^ 2.5.1	Error	Technical	The version ID of the HL7 message is an invalid value.	Verify the version ID, 2.5.1, is being included in MSH- 12.
MSH	102	MSH-4: Invalid Owning Organization Id.	MSH ^~\& NCIR 80567- PROVIDER NCIR	Error	Technical	Value sent in MSH-4 is not recognized by the NCIR>	Verify the value being sent in MSH-4 is the value provided by the NCIR.
MSH	102	MSH-4:NO PARENT/VENDOR/CHILD RELATIONSHIP EXISTS: AUTHORIZATION FAILED	MSH ^~\& NCIR 80567- PROVIDER NCIR	Error	Technical	The provider identified in MSH-4 is not related to the site submitted in RXA-11.	Verify the value being sent in MSH-4 is the value provided by the NCIR.
MSH	102	MSH-4: Org is not established in Data Exchange	MSH ^~\& NCIR 80567- PROVIDER NCIR	Error	Technical	Value sent in MSH-4 is not recognized by the NCIR>	Verify the value being sent in MSH-4 is the value provided by the NCIR.
MSH	102	MSH-4: Sending facility missing.	MSH ^~\& NCIR 80567- PROVIDER NCIR	Error	Technical	The required information in MSH-4 is missing.	Verify the value being sent in MSH-4 is the value provided by the NCIR.
MSH	102	NO MSH SEGMENTS ENCOUNTERED IN FILE	N/A	Error	Technical	No MSH segments were found in incoming message.	Verify HL7 message contains all required and necessary segments to transmit an immunization.
Miscellaneous - Message ACK	102	NUMBER OF MESSAGES RECEIVED EXCEEDS " + (max_messages)	N/A	Error	Technical	The number of messages being sent exceeds the maximum amount allowed.	Contact your NCIR Technical Resource

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
OBX	102	OBX-05 Contraindication LOINC code specified in OBX -3 with non-contraindication observation in OBX-5	OBX 1 CE 30945-0^Contraindication^LN 1 91930004^Allergy Egg^SCT^^^	Warning		OBX-3 LOINC submitted with non-contra/precaution observation in OBX-5.	Verify OBX-3 LOINC and OBX-5 observation agree, see page 125.
OBX	102	OBX-05 Immunity LOINC code specified in OBX -3 with non-immunity observation in OBX-5	OBX 4 CE 59784-9^Disease with presumed immunity^LN^^ 1 371111005^Immunity: Measles^SCT^^	Warning		The corresponding OBX-5 value is not an immunity, in relation to OBX-3 LOINC	Verify that the OBX-5 value is appropriate for Immunity LOINC in OBX-3.
OBX	102	OBX-05 Special Ind LOINC code specified in OBX -3 with non-special observation in OBX-5	OBX 1 CE 59785-6^Special^LN 4 VXC7^Rabies Exposure^CDCPHINVS^^	Warning		OBX-3 LOINC submitted with non-special observation in OBX-5.	Verify OBX-3 LOINC and OBX-5 observation agree, see page 125.
OBX	102	OBX-1: Set ID - OBX invalid. Please enter a numeric value.	OBX 1	Warning		Value submitted is invalid.	Verify value being sent is numeric.
OBX	102	OBX-14: Required field. Enter valid date.	VXC2^State Funds^CDCPHINVS F 20121219	Warning		The date provided in OBX-14 is invalid.	Date must be in format YYYYMMDD
OBX	102	OBX-17: Observation Method missing or invalid.	F 20130401 VXC41^per visit^CDCPHINVS	Warning		The value in RXA-17 is missing or invalid.	Verify the value being sent in RXA-17 is valid. See NCLIG, page 62
OBX	102	OBX-19: End Date must be after the observation date.	F 20121219 20201231	Warning		This date is earlier than the date observed in OBX-14.	Verify date in OBX-19 is after date in OBX-14
OBX	102	OBX-19: Invalid End Date format.	F 20121219 20201231	Warning		Format of OBX-19 is invalid.	Value format in OBX-19 must be YYYYMMDD.
OBX	102	OBX-2: Valid Value Required for Deduct for inventory. Processing as Owned Non-Deducting	OBX 1 CE	Warning		Invalid value sent in OBX-2.	Data Exchange accepts CE, TS, NM, DT in OBX-2.
OBX	102	OBX-5: Observation value missing.	N/A	Warning		The observation value in OBX-5 is missing.	Verify the correct, corresponding OBX-5 value

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
							is sent. See NCLIG, page 59
ORC	102	ORC-3: Must be 9999 for refusal/exemption.	ORC RE 9999	Warning		When sending a refusal/exemption ORC-3 must be "9999."	Verify value being sent in ORC-3 is "9999"
PID	102	PID-22: Invalid value. Defaulted to Unknown.	2186-5^Not Hispanic or Latino^CDCREC	Warning		The value submitted is not recognized and defaulted to "Unknown."	Verify the values being populated in PID-22 match those in NCLIG, page 110.
PID	102	PID-24: Multiple Birth Indicator invalid. Field is ignored.	2186-5^Not Hispanic or Latino^HL70189 N	Warning		The value submitted in PID-24 is not recognized.	PID-24 accepts either "Y" or "N" value.
PID	102	PID-29: INVALID DATE OF DEATH FORMAT.	N 1 20130909	Warning		The format of the date of death is incorrect.	Date of death format should be YYYYMMDD
PID	102	PID-3: INVALID PATIENT IDENTIFIER TYPE CODE: "+code	PID 1 1234567890^^^NCA^SR^	Warning		Value in PID-3.5 doesn't match accepted values.	Values accepted in PID-3.5 are "SR", "PI", "MR" or "PT"
PID	102	PID-3: INVALID STATE REGISTRY ID - MUST BE NUMERIC, SPECIFIED ID IGNORED: "+chartSR	PID 1 1234567890	Warning		ID sent in PID-3.1 is invalid.	Verify that the PID-3.1 value is numeric.
PID	102	PID-3: PATIENT IDENTIFIER TYPE OF PI, SR, PT, or MR required	PID 1 1234567890^^^NCA^SR^	Warning		Value in PID-3.5 not submitted and is required.	Values accepted in PID-3.5 are "SR", "PI", "MR" or "PT"
PID	102	PID-5: Length of name exceeds NCIR max length.	PID 1 1234567890^^^PI^ Last Name^First Name^Middle Name^^^^L^	Warning		The length of the patient's name exceeds the character limit allowed in the NCIR.	Use existing, local rules for shortening names.
PID	102	PID-6: Length of name exceeds NCIR max length.	Last Name^First Name^Middle Name^^^^L^ Last Name^First Name^Middle Name^^^^M^	Warning		The length of the patient's name exceeds the character limit allowed in the NCIR.	Use existing, local rules for shortening names.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
RXA	102	RXA SEGMENT - RXA-09 component 2 (Text) is a required field.	999 01^Historical Information – Source unspecified^NIP001	Warning		RXA-9.2 requires text specified in NCLIG.	Verify HL7 code being sent in RXA-9.2 contains defined text from NCLIG.
RXA	102	RXA-03: INVALID VACCINE ADMIN DATE. DATE OF BIRTH AFTER ADMIN DATE. ENTIRE TRANSACTION IS REJECTED.	RXA 0 1 20121219	Error		The date the immunization was given is before the patient date of birth.	Verify the immunization date and patient DOB is correct.
RXA	102	RXA-03: INVALID VACCINE ADMINISTRATION DATE FORMAT.	RXA 0 1 20121219	Error		The date of the immunization is in an invalid format.	RXA-3 date format is YYYYMMDD
RXA	102	RXA-03: INVALID VACCINE ADMINISTRATION DATE. FUTURE DATE.	RXA 0 1 20121219	Error		The immunization administered date is for a date in the future.	Verify the correct date of administration is being recorded.
RXA	102	RXA-03: INVALID VACCINE ADMINISTRATION DATE. DATE OF DEATH BEFORE ADMINISTRATION DATE.	RXA 0 1 20121219	Error		The immunization administration date is after the patient was recorded as deceased.	Verify the date of administration and date of death.
RXA	102	RXA05: Refusals/Exemption RXA5 must be a CVX code only	RXA 0 1 20120828 03^MMR^CVX 999 00^PARENTAL REFUSAL^NIP002^^^	Warning		Value other than CVX code submitted in RXA-5.	Verify RXA-5 is being sent with CVX only for refusals/exemptions.
RXA	102	RXA-09 component 2 (Text) is a required field.	999 01^Historical Information – Source unspecified^NIP001	Warning		RXA-9.2 requires text specified in NCLIG.	Verify HL7 code being sent in RXA-9.2 contains defined text from NCLIG.
RXA	102	RXA-09: Administration Notes invalid or missing.	999 01^Historical Information – Source unspecified^NIP001	Warning		The value in RXA-9 is missing or not recognized by the NCIR.	Verify HL7 being submitted is either “00^New Immunization Record^NIP001” or “01^Historical Information – Source unspecified^NIP001”

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
RXA	102	RXA-10 Administering provider invalid or missing	^Clinician Last^Clinician First^Clinician Middle^^^^Name type code	Warning		Value submitted for RXA-10 is invalid or missing.	Verify HL7 message includes provider/clinician name.
RXA	102	RXA-18: Invalid entry.	999 01^RELIGIOUS EXEMPTION^NIP002	Warning		RXA-18 is reserved for refusal/exemption values, an invalid entry was submitted.	NCIR accepts "01^RELIGIOUS EXEMPTION^NIP002" or "00^PARENTAL REFUSAL^NIP002"
RXA	102	RXA-18: Invalid refusal code.	999 01^RELIGIOUS EXEMPTION^NIP002	Warning		RXA-18.1 submitted is an invalid value.	NCIR accepts "01^RELIGIOUS EXEMPTION^NIP002" or "00^PARENTAL REFUSAL^NIP002"
RXA	102	RXA-18: Required field when RXA-20 is RE	999 01^RELIGIOUS EXEMPTION^NIP002	Warning		No reason for refusal/exemption received in RXA-18 when RXA-20 was set to RE (refusal).	Verify that refusal/exemption was intent of message. Populate RXA-18 with appropriate values.
OBX	207.74	Client visit-level eligibility has been updated for all existing immunizations with the same	N/A	Warning		Immunizations for the same date have been updated to eligibility of most recent immunization.	Verify the most recent eligibility sent to NCIR is accurate.
RXA	207.11	DEDUCT ERROR. Dose size greater the 2 times the vaccine lot dose quantity. Immunization processed as Owned Non-deducting	N/A	Warning		Dose submitted for immunization is 2x greater than recommended dose.	Verify appropriate dose is being given and recorded for immunization.
RXA	207.40	DEDUCT ERROR. Lot has insufficient inventory for inventory deduction. Immunization processed as Owned Non-deducting.	N/A	Warning		The immunization being administered does not have enough stock for proper deduction.	Verify inventory counts are accurate and amount being administered is correct.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
RXA	207.63	DEDUCT ERROR. Not valid Multiplier for Vaccine Lot. Immunization processed as Owned Non-deducting.	II^Measles, mumps, and rubella live^VTN 0.5			The dose value sent in RXA-6 is not valid for the lot number selected.	Verify the amount being administered for the immunization.
RXA	207.60	DEDUCT INFO: Multiple matching vaccine lots found, using the oldest. Vaccine Lot id: <Vaccine	N/A	Warning		More than one of the same lot number has been found. The oldest lot will be used.	Verify lot numbers are correct in inventory.
RXA	207.41	DEDUCT WARNING. Vaccine Lot Expiration Date does not match	testlot1 20151226	Warning		The expiration date that was submitted does not match the expiration for the lot number.	Verify information of expiration date for lot number being administered.
RXA	207.43	DEDUCT WARNING: Reactivating the inactive vaccine lot.	N/A	Warning		The immunization lot being used is inactive. The registry is reactivating lot for deduction.	Verify lot numbers accuracy in inventory.
RXA	207.6	ERROR: Delete refusal transactions are not permitted for this	N/A	Warning		Deletion of immunizations via interface is prohibited.	Any deletions must be made via NCIR portal.
RXA	207.76	ERROR: Delete immunization transactions are not permitted for this organization.	N/A	Warning		Deletion of immunizations via interface is prohibited.	Any deletions must be made via NCIR portal.
NK1	207.18	Invalid street address <Street Address>. No Address values stored.	HL70063^^^ 1234 W MAIN ST^^ANYTOWN^NC^27850^^M^ ^NC091^^	Warning		Invalid or empty value sent for street address in NK1-1.	Verify correct information is being sent in HL7
RXA	207.37	Informational error - Invalid administered by last name (<Last Name>). No value stored	^Clinician Last^Clinician First^Clinician Middle^^^^^Name type code	Warning		Invalid or empty value sent in RXA-10.2	Verify value is being sent in HL7.
NK1	207.20	Informational error - Invalid city <City>. No value stored.	HL70063^^^ 1234 W MAIN ST^^ANYTOWN^NC^27850^^M^ ^NC091^^	Warning		Invalid or empty value sent for street address in NK1-3.	Verify correct information is being sent in HL7

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
PID	207.24	Informational error - Invalid middle name (<Middle Name>). No value stored.	Last Name^First Name^ Middle Name ^^^^L^	Warning		Invalid or empty value sent in PID-5.3	Verify value is being sent in HL7.
PID	207.29	Informational error - Invalid mother's first name (<First Name>). No value stored.	Last Name^ First Name ^Middle Name^^^^M^	Warning		Invalid or empty value sent in PID-6.2	Verify value is being sent in HL7.
PID	207.30	Informational error - Invalid mother's maiden name (<Last Name>). No value stored.	Last Name ^First Name^Middle Name^^^^M^	Warning		Invalid or empty value sent in PID-6.1	Verify value is being sent in HL7.
NK1	207.26	Informational error - Invalid responsible party first name (<First Name>). No value stored.	NK1 1 LAST^ FIRST ^MIDDLE^^^^L^	Warning		Invalid or empty value sent in NK1-2.2	Verify value is being sent in HL7.
NK1	207.28	Informational error - Invalid responsible party last name (<Last Name>). No value stored.	NK1 1 LAST ^FIRST^MIDDLE^^^^L^	Warning		Invalid or empty value sent in NK1-2.1	Verify value is being sent in HL7.
NK1	207.27	Informational error - Invalid responsible party middle name (<Middle Name>). No value stored.	NK1 1 LAST^FIRST^ MIDDLE ^^^^L^	Warning		Invalid or empty value sent in NK1-2.3	Verify value is being sent in HL7.
RXA	207.68	Informational error - Trade Name (<Trade Name> +) not produced by manufacturer (<Manufacturer>). Defaulting to unknown manufacturer.	N/A	Warning		The immunization trade name submitted is not made by the manufacturer selected.	Verify HL7 info for trade name and manufacturer. Verify relation tables are correct.
RXA	207.15	INFORMATIONAL Message. Incoming Immunization	N/A	Warning		The immunization being submitted matches an	Verify immunization being submitted is correct.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
		Likely a match to existing Immunization				existing dose in patient chart.	
RXA	207.46	INFORMATIONAL Message. Incoming Immunization saved but might be a duplicate	N/A	Warning		Immunization submitted was save to patient chart, but is possibly a duplicate immunization.	Verify immunization being submitted is correct.
RXA	207.71	Informational Message: Existing NC Vitals Org client--vital demographic fields will not be updated. Immunization data (if any) will be added/updated.	N/A	Warning		Demographic information submitted will not update existing demographic data. Immunizations will be added/updated.	N/A
RXA	207.16	Inventory immunization is a duplicate of another incoming inventory immunization.	N/A	Warning		The immunization being submitted matches an existing dose in patient chart.	Verify immunization being submitted is correct.
RXA	207.48	Inventory Warning. Incoming is possibly a duplicate of an existing immunization.	N/A	Warning		The immunization being submitted matches an existing dose in patient chart.	Verify immunization being submitted is correct.
OBX	207.75	Multiple eligibility for the same date not allowed. Last value recorded.	N/A	Warning		Multiple eligibilities have been submitted for the same immunization date. Last eligibility received recorded to patient record.	Verify correct eligibility value is being sent.
NK1	207.14	NK1-20: Primary language of responsible person " +(name != null ?name.getLastName(): null) + " defaulted to English.	ENG^English^HL70296	Warning		Language of responsible person is blank. Defaulting language to English.	Verify HL7 is being sent with responsible person primary language.
RXA	207.54	No Vaccine Lot Found with Search Args: Site Id: <Site Id> + TradeName: +	N/A	Warning		Combination of site, tradename, or lot number do not match current inventory.	Verify the information submitted for immunization.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
		tradeName + LotNum: <Lot Number>+					
OBX	207.73	OBX-05: Financial Class: A state supplied dose was provided when a private dose should have been provided.	N/A	Warning		An immunization was given with state eligibility, when it should have been given as private.	Check immunization is appropriate for patient age, dose, eligibility, and lot number.
NK1	207.59	Only up to 4 responsible persons accepted.	N/A	Warning		Patient chart already has four responsible persons on file in NCIR.	N/A
PID	207.92	PID-11: Invalid Address Type: <Sent Value>. Defaulting to M.	N/A	Warning		Address reported in NK1 segment.	"M" is value NCIR accepts for address type.
RXA	207.44	Record rejected. This comment matches another comment in incoming file.	N/A	Warning		The incoming client comment/contraindication matches an existing client comment/contraindication.	Verify patient record for existing client comment/contraindication .
RXA	207.49	Record rejected. This immunization matches another immunization in incoming file.	N/A	Warning		Two or more immunizations for this patient match in the same message.	Verify duplicate immunizations are not being sent in single message.
PID	207.91	PID-15: Primary language of responsible person defaulted to English.	N/A	Warning		Primary language is sent in NK1 segment.	N/A
RXA	207.45	Record rejected. This reaction matches another reaction for same immunization in incoming file.	N/A	Warning		Two or more reactions for this patient match in the same message.	Verify duplicate reactions are not being sent in single message.
RXA	207.47	Rejected Inventory. Incoming is a duplicate of an existing immunization.	N/A	Warning		Immunization being sent matches an existing immunization in patient chart.	Verify immunization being sent and patient NCIR chart.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
PID	207.22	Record Rejected - Invalid first name (<First Name>).	PID 1 1234567890^^^^PI^ Last Name^First Name^Middle Name^^^^L^	Error		The PID segment identifying the patient, contains an invalid name in PID-5.2.	Verify PID-5.2 contains the patient first name using alpha characters.
PID	207.23	Record Rejected - Invalid Last Name (<Last Name>).	PID 1 1234567890^^^^PI^ Last Name^First Name^Middle Name^^^^L^	Error		The PID segment identifying the patient, contains an invalid name in PID-5.1.	Verify PID-5.1 contains the patient last name using alpha characters.
OBX	207.5	The VIS publication date was not found for this vaccine or vaccine group. No data saved.	OBX 2 TS 29768-9^DATE VACCINE INFORMATION STATEMENT PUBLISHED^LN 1 20070517	Warning		The VIS publication date submitted in OBX-5 was not found for this immunization.	Verify correct VIS publication date is being sent in HL7
PID	207.39	Title + rejected. <First Name> is not a valid first name.	PID 1 1234567890^^^^PI^ Last Name^First Name^Middle Name^^^^L^	Error		The PID segment identifying the patient, contains an invalid name in PID-5.2.	Verify PID-5.2 contains the patient first name using alpha characters.
PID	207.38	Title + rejected. <Last Name> is not a valid last name.	PID 1 1234567890^^^^PI^ Last Name^First Name^Middle Name^^^^L^	Error		The PID segment identifying the patient, contains an invalid name in PID-5.1.	Verify PID-5.1 contains the patient last name using alpha characters.
PID	207.35	Title + rejected. Client first name must be greater than one character in length.	PID 1 1234567890^^^^PI^ Last Name^First Name^Middle Name^^^^L^	Error		The value submitted in PID-5.2 is only one character.	Patient name submitted in PID-5.2 must be longer than one character.
PID	207.36	Title + rejected. Client last name must be greater than one character in length.	PID 1 1234567890^^^^PI^ Last Name^First Name^Middle Name^^^^L^	Error		The value submitted in PID-5.1 is only one character.	Patient name submitted in PID-5.1 must be longer than one character.
OBX	102	MISSING OBX SEGMENT – COMPONENT VIS DATE MISSING.	N/A	Warning		Component immunizations, immunizations with multiple vaccines, require separate VIS dates in the OBX segments.	Verify that component immunizations, immunizations with multiple vaccines, send separate VIS dates in the HL7.
OBX	207.94	MISSING OBX SEGMENT - VIS PUBLICATION DATE MISSING.	OBX 2 TS 29768-9^DATE VACCINE INFORMATION STATEMENT PUBLISHED^LN 1 20070517	Warning		The VIS publication required in OBX-5.5 is missing.	Verify VIS publication date is populating and being sent in HL7.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
OBX	102	MISSING OBX SEGMENT - VIS PRESENTATION DATE MISSING.	OBX 3 TS 29769-7^DATE VACCINE INFORMATION STATEMENT PRESENTED^LN 1 20091010	Warning		The VIS presentation required in OBX-5.5 is missing.	Verify VIS presentation date is populating and being sent in HL7.
NK1	102	NK1-4: County code invalid. Code ignored.	MTH^MOTHER^HL70063^^^ 12 34 W MAIN ST^^ANYTOWN^NC^27850^^M^ ^NC091^^	Warning		Value sent in NK1-4.9 does not match value in NCLIG.	Verify values being sent in NK1-4.9 match values in NCLIG, page 114
NK1	207.96	NK1: Responsible person required in the NCIR. No NK1 segment provided.	N/A	Warning		The NCIR requires a responsible person submitted with immunization information.	Verify that the responsible person information is being sent in an NK1 segment.
NK1	207.97	Contact address and/or phone number required. Please send address and/or phone number.	1234 W MAIN ST^^ANYTOWN^NC^27850^^M^ ^NC091^^ PRN^PH^^^919^55 51234^^	Warning		A responsible person was sent, but without an address or phone number.	Verify that the responsible person has an address and/or phone number that is being sent in NK1-4 and NK1-5.
RXA	102	(Owned Dose) Valid CVX code required in the first triplet for an owned dose. - First Triplet - [Coding system] = [Value sent in first triplet] - Dose rejected.	110^DTaP^CVX^PEDIARIX^PEDIARIX^VTN or 03^MMR^CVX^MMR II^MMR II^VTN	Warning		For an administered immunization, RXA-5.1-3 is required.	Verify HL7 is being sent with formatted info for CVX code.
RXA	102	(Owned Dose) Invalid CVX code in the first triplet - ([Value Sent]) - Dose rejected.	110^DTaP ^CVX^PEDIARIX^PEDIARIX^VTN	Warning		RXA-5.1-3 has an invalid CVX code for an administered dose.	Verify HL7 is being sent with formatted info for CVX code.
RXA	102	(Owned Dose) Owned deduct dose requires Trade Name or NDC in the second triplet. Dose accepted as owned/non-deducting.	110^DTaP ^CVX^ PEDIARIX^PEDIARIX^VTN or 48^Hib-PRP-T^CVX^ 49281-0545-05^Acthib^NDC	Warning		Trade name or NDC information is required in RXA-5.4-6.	Verify that administered doses are populating information in RXA-5.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
RXA	102	(Owned Dose) Invalid NDC code in the second triplet - NDC = [Value Sent] - Dose rejected	48^Hib-PRP-T^CVX^49281-0545-05^Acthib^NDC	Warning		The NDC code being submitted in RXA-5.4-6 is incorrect.	The NDC code being submitted in RXA-5.4-6 is incorrect.
RXA	102	(Owned Dose) Invalid VTN code in the second triplet - VTN = [Value Sent] - Dose rejected.	110^DTaP^CVX^PEDIARIX^PEDIARIX^VTN	Warning		The vaccine trade name being submitted in RXA-5.4-6 is incorrect.	Refer to NCIR or CDC VTN listing to verify information being submitted is correct.
RXA	102	(Owned Dose) Invalid CPT code in the second triplet - CPT = [Value Sent] - Dose rejected.	90700^DTaP^CPT	Warning		The CPT code being sent in RXA-5.1-3 is invalid.	Verify the CPT value being sent matches the values in the NCLIG, page 130.
RXA	102	(Owned Dose) Invalid codeset in the second triplet with a valid CVX in first triplet - [Codeset] = [Value Sent] - Dose rejected.	48^Hib-PRP-T^CVX^49281-0545-05^Acthib^NDC	Warning		The first triplet is valid, however the second triplet (RXA-5.4-6) contains invalid info.	Verify values being submitted in RXA-5.4-6 match those in the NCIR or CDC.
RXA	102	(Owned Dose) First and Second triplets do not identify the same vaccine product. CVX = [Value Sent], [Second triplet coding system] = [Value Sent]. Dose rejected.	48^Hib-PRP-T^CVX^49281-0545-05^Acthib^NDC	Warning		The immunization in RXA-5.1-3 does not match the value in RXA-5.4-6.	Verify values being submitted in RXA-5.4-6 match those in the first triplet. Reference the NCIR or CDC.
RXA	102	(Owned Dose) Second triplet should be NDC or NCIR Trade Name code. CVX [Value Sent], Second triplet coding system = [Coding System Sent]. Dose accepted as owned/non-deducting.	48^Hib-PRP-T^CVX^48^Hib-PRP-T^CVX	Warning		The value sent in RXA-5.4-6 is a CVX code.	The second triplet, RXA-5.4-6, should be a VTN or NDC code.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
RXA	102	No Vaccine Lot Found with Search Args: Site Id: [Site Id]: [NDC]: [LotNum]: [Funding Code]: . Setting to owned/non-deducting.	N/A	Warning	Clinical	Combination of site, tradename, or lot number do not match current inventory.	Verify the information submitted for immunization.
RXA	102	(Historical Dose) Valid CVX code or blank values required in the first triplet for historical dose. - First Triplet - [Coding system] = [Value sent in first triplet] - Dose rejected.	48^Hib-PRP-T^CVX^49281-0545-05^Acthib^NDC or ^^^49281-0545-05^Acthib^NDC	Warning		A non CVX value was sent in RXA-5.1-3	When submitting an historical dose either use a valid CVX code or leave RXA-5.1-3 blank.
RXA	102	(Historical Dose) Invalid CVX code in the first triplet - ([Value Sent]) - Dose rejected.	48^Hib-PRP-T^CVX^49281-0545-05^Acthib^NDC or ^^^49281-0545-05^Acthib^NDC	Warning		An invalid CVX value was sent in RXA-5.1-3.	When submitting an historical dose either use a valid CVX code or leave RXA-5.1-3 blank.
RXA	102	(Historical Dose) Invalid NDC code in the second triplet - NDC = [Value Sent] - Dose rejected.	48^Hib-PRP-T^CVX^49281-0545-05^Acthib^NDC	Warning		The NDC code being submitted in RXA-5.4-6 is incorrect for this historical dose.	Refer to NCIR or CDC NDC listing to verify information being submitted is correct.
RXA	102	(Historical Dose) Invalid VTN code in the second triplet - VTN = [Value Sent] - Dose rejected.	110^DTaP^CVX^PEDIARIX^PEDIARIX^VTN	Warning		The VTN code being submitted in RXA-5.4-6 is incorrect for this historical dose.	Refer to NCIR or CDC VTN listing to verify information being submitted is correct.
RXA	102	(Historical Dose) Invalid codeset in the second triplet with a valid CVX in first triplet - [Codeset] = [Value Sent] - Dose rejected.	110^DTaP^CVX^PEDIARIX^PEDIARIX^VTN	Warning		The codeset in RXA-5.4-6 is invalid, although the first triplet is valid.	The value in RXA-5.4-6 should be VTN, NDC, CPT, or VGC.
RXA	102	(Historical Dose) Invalid codeset in the second triplet with a blank first triplet - [Codeset] = [Value Sent] - Dose rejected.	^^^PEDIARIX^PEDIARIX^VTN	Warning		The codeset in RXA-5.4-6 is invalid, the first triplet is blank.	The value in RXA-5.4-6 should be VTN, NDC, CPT, or VGC.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
RXA	102	(Historical Dose) First and second triplets are both blank - Dose rejected.	N/A	Warning		The first and second triplets in RXA-5 are blank.	Verify at least one triplet contains historical immunization values.
RXA	102	(Historical Dose) First and Second triplet do not identify the same vaccine product. CVX = [Value Sent], [Second triplet coding system] = [Value Sent]. Dose rejected.	48^Hib-PRP-T^CVX^49281-0545-05^Acthib^NDC	Warning		RXA-5.1-3 and RXA-5.4-6 do not identify the same vaccine.	Verify correct, corresponding info is contained in RXA-5, first and second triplet.
MSH	207	MSH-7 Date/Time of Message is a future date.	MSH ^~\& NCIR NCIR-SHORT-ORG NCIR 20121212100101-0500	Warning		Immunization was sent with a future date and/or time.	Verify immunization information is being sent for current date/time.
MSH	101	MSH-15 Accept Acknowledgement Type value ER is required.	MSH ^~\& NCIR NCIR-SHORT-ORG NCIR 0500 VXU^V04^VXU_V04 1 P^ 2.5.1 ER	Warning		Value in MSH-15 is missing.	The NCIR accepts only "ER" in MSH-15.
MSH	207	MSH-15 Accept Acknowledgement Type [insert sent value] is not valid. Defaulted to ER.	MSH ^~\& NCIR NCIR-SHORT-ORG NCIR 0500 VXU^V04^VXU_V04 1 P^ 2.5.1 ER	Warning		Value in MSH-15 is invalid.	The NCIR accepts only "ER" in MSH-15.
MSH	101	MSH-16 Application Acknowledgement Type value AL is required.	MSH ^~\& NCIR NCIR-SHORT-ORG NCIR 0500 VXU^V04^VXU_V04 1 P^ 2.5.1 ER AL	Warning		Value in MSH-16 is missing.	The NCIR accepts only "AL" in MSH-16.
MSH	207	MSH-16 Application Acknowledgement Type [insert sent value] is not valid. Defaulted to AL.	MSH ^~\& NCIR NCIR-SHORT-ORG NCIR 0500 VXU^V04^VXU_V04 1 P^ 2.5.1 ER AL	Warning		Value sent in MSH-16 is invalid.	The NCIR accepts only "AL" in MSH-16.
MSH	101	MSH-21 Message Profile Identifier Z22^CDCPHINVS is required	VXU^V04^VXU_V04 1 P 2.5.1 ER AL Z22^CDCPHINVS	Warning		In order to submit immunizations, MSH-21 must be submitted in message.	NCIR requires "Z22^CDCPHINVS" for VXU submissions.
MSH	207	MSH-22 Sending Responsible Organization [insert sent value] does not	MSH ^~\& 80567-PROVIDER NCIR-SHORT-ORG NCIR 20121212100101-	Error	Technical	Value in MSH-22 does not match the value sent in MSH-4.	The NCIR requires that MSH-22 mirror what is submitted in MSH-4.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
		match MSH-4 Sending Facility	0500 VXU^V04^VXU_V04 1 P 2.5.1 ER AL Z22^CDCPHI NVS 80567-PROVIDER				
PID	101	PID-5.7 Patient Name Type Code is missing. Defaulted to L.	PID 1 1234567890^^^P ^ Last Name^First Name^Middle Name^^^L^	Warning		RXA-5.7 is missing and is required.	The NCIR accepts “L” for legal name in RXA-5.7
PID	207	PID-5.7 Patient Name Type Code is not valid. Defaulted to L.	PID 1 1234567890^^^P ^ Last Name^First Name^Middle Name^^^L^	Warning		PID-5.7 is an invalid value.	The NCIR accepts “L” for legal name in RXA-5.7
PID	101	PID-6.7 Mothers Maiden Name Type Code is required. Defaulted to M.	Last Name^First Name^Middle Name^^^M^	Warning		PID-6.7 is missing and is required.	The NCIR accepts “M” for maiden name in RXA-6.7
PID	207	PID-6.7 Mothers Maiden Name Type Code [insert sent value] is not valid. PID-6.7 value M is required. Defaulted to M.	Last Name^First Name^Middle Name^^^M^	Warning		PID-6.7 is an invalid value.	The NCIR accepts “M” for maiden name in RXA-6.7
PID	101	PID-10.3 Race Coding System is missing.	20110219 F 2106-3^White^CDCREC	Warning		Required value in PID-10.3 is missing.	Verify Race values from NCLIG, page 110, are being sent in HL7.
PID	207	PID-10.3 Race Coding System [insert sent value] is not valid.	20110219 F 2106-3^White^CDCREC	Warning		Value sent in PID-10.3 is invalid.	Verify Race values from NCLIG, page 110, are being sent in HL7.
PID	207	PID-10.1 Race Code [insert sent value] is not valid. No value saved.	20110219 F 2106-3 ^White^CDCREC	Warning		Value sent in PID-10.1 is not a valid option.	Verify Race values from NCLIG, page 110, are being sent in HL7.
PID	207	PID-13.3 Telecommunications Equipment Type [insert sent value] is not valid.	^PRN^PH^ncirxyz@yourorg.com^^919^5551234^^	Warning		The value in PID-13.3 is invalid.	The NCIR only accepts “PH” in PID-13.3.
PID	101	PID-22.3 Ethnic Group Coding System is missing.	2186-5^Not Hispanic or Latino^CDCREC	Warning		A value was not submitted in PID-22.3.	Refer to NCLIG page 112 for Ethnic Group values.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
PID	207	PID-22.3 Ethnic Group Coding System [insert sent value] is not valid.	2186-5^Not Hispanic or Latino^CDCREC	Warning		A valid value was not submitted in PID-22.3.	Refer to NCLIG page 112 for Ethnic Group values.
NK1	101	NK1-2.7 Name Type Code is missing. Defaulted to L.	NK1 1 Last Name^First Name^Middle Name^^^^L^	Warning		No value was sent in NK1-2.7.	The NCIR requires "L" for legal name be sent in NK1-2.7.
NK1	207	NK1-2.7 Name Type Code is not valid. Defaulted to L.	NK1 1 Last Name^First Name^Middle Name^^^^L^	Warning		A valid value was not received in NK1-2.7.	The NCIR requires "L" for legal name be sent in NK1-2.7.
NK1	207	NK1-5.3 Telecommunications Equipment Type [insert sent value] is not valid.	^PRN^PH^^919^5551234^^	Warning		Value sent in NK1-5.3 is invalid.	The NCIR accepts only "PH" in NK1-5.3.
ORC	207	ORC-10.10 Entered By Name Type Code is not valid. Defaulted to L.	^Clinician Last^Clinician First^^^^^^L	Warning		Value entered for name type in ORC-10.10 is not valid.	The NCIR accepts "L" for legal name in ORC-10.10.
ORC	207	ORC-12.10 Ordering Provider Name Type Code is not valid. Defaulted to L.	^Clinician Last^Clinician First^^^^^^L	Warning		Value entered for name type in ORC-12.10 is not valid.	The NCIR accepts "L" for legal name in ORC-12.10.
RXA	207	RXA-5: Triplet 2 ignored; same value as Triplet 1.	48^Hib-PRP-T^CVX^49281-0545-05^Acthib^NDC	Warning		Value sent in RXA-5.4-6 is the same as the value in RXA-5.1-3.	Verify that the corresponding VTN or NDC is being sent in RXA-5.4-6.
RXA	207	RXA-5: First and Second triplet do not identify the same vaccine. First Triplet [insert coding system] = [insert value], Second Triplet [insert coding system] = [insert value]. Dose rejected.	110^DTaP/Polio/Hep B^CVX^PEDIARIX^PEDIARIX^VT N	Error		The vaccine identified in RXA-5.1-3 is not the same as the vaccine identified in RXA-5.4-6.	Refer to vaccine information from the NCIR or CDC>
RXA	207	RXA-6 Administered Amount [insert sent value] is not valid. RXA-6 shall be	998^No Vaccine Administered^CVX 999 ^No vaccine Administered^^^	Warning		Immunization dose is not valid as RXA-5.1 was set as	Verify if you are trying to send an immunization or a client comment.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
		999 if RXA-5.1 is 998. Defaulted to 999.				"998" no vaccine administered.	
RXA	207	RXA-9.3 Coding System [insert sent value] is not valid.	00^New Immunization Record^NIP001	Warning		Value in RXA-9.3 is invalid or does not reference proper table.	NCIR accepts "NIP001" in RXA-9.3.
RXA	207	RXA-10.10 Administering Provider Name Type Code is not valid. Defaulted to L.	^Clinician Last^Clinician First^Clinician Middle^^^^^L	Warning		Value sent in RXA-10.10 is not valid as defined by NCIR.	The NCIR accepts "L" for legal name in RXA-10.10.
RXA	101	RXA-21 Action Code is required. Defaulted to A.	01^RELIGIOUS EXEMPTION^NIP002^^^ RE A 	Warning		Value is required for adding and updating immunizations.	The NCIR accepts only "A" in RXA-21.
RXA	207	RXA-21 Action Code [insert sent value] is not valid. Defaulted to A.	01^RELIGIOUS EXEMPTION^NIP002^^^ RE A 	Warning		Value other than "A" sent in RXA-21.	The NCIR accepts only "A" in RXA-21.
RXR	101	RXR-1.3 Route Coding System is required.	C38305^TRANSDERMAL^NCIT	Warning		No value was submitted in RXR-1.3. This value is a needed table relation.	Refer to NCLIG page 111 for valid route table values.
NK1	207	NK1-3: Only one responsible person per relationship type is accepted.	N/A	Warning		NCIR only allows one responsible person type (mother, father, etc..) per patient.	Verify information being sent in NK1 is correct.
OBX	101	OBX-4: Observation Sub-ID missing.	OBX 1 CE 30963-3^Vaccine purchased with^LN 1	Warning		No value was submitted for observation sub-ID.	Refer to NCLIG page 58 for more info.
RXA	102	(Owned Dose) Second triplet should be NDC or NCIR Trade Name code. CVX = [Value sent in first triplet], Second triplet coding system = [Insert code-set]. Dose accepted as owned/non-deducting.	48^Hib ^CVX^49281-0545-05^Acthib^NDC or 110^DTaP^CVX^PEDIARIX^PEDIARIX^VTN	Warning		The coding system in RXA-5.6 is invalid.	RXA-5.6 accepted by NCIR should be NDC or VTN. Refer to NCLIG page 93.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
RXA	102	(Owned Dose) Second triplet should be NDC or NCIR Trade Name code. CVX = [Value sent in first triplet], Second triplet coding system = [Insert code-set]. Dose accepted as owned/non-deducting.	48^Hib ^CVX^ 49281-0545-05^Acthib^NDC or 110^DTaP^CVX^PEDIARIX^PEDIARIX^VTN	Warning		The coding system in RXA-5.6 is invalid.	RXA-5.6 accepted by NCIR should be NDC or VTN. Refer to NCLIG page 93.

QBP Errors and Warnings Information

Note - This is a supplemental document that provides information regarding errors and warnings. For more details or specifications, please refer to the North Carolina Local Implementation Guide (NCLIG).

Provider system will receive real time response message (Z31 - multiple candidate/ Z32 - an exact match was found/ Z33 - no candidate was found/ Z42 - an exact match was found) in response to the Z34 (request for complete immunization history) or Z44(request for evaluated history and forecast) sent to the NCIR system. Providers need a method to capture and display the response or error or warning returned from the NCIR. Below is a list of possible warnings and errors, their severity and a brief explanation of the issue. The Segment column list out the HL7 message segment pertaining to the error/warning message. The Message ID - Identifies the HL7 (communications) error code. Please refer to HL7 Table 0357 in NCLIG for error code details. The Location column identifies the location in a message related to the identified error

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
MSH	101	MSH-6: Required field. Query is not for NCIR. Plug in NCIR for querying NCIR.	MSH ^~\& NCIR NCIR-SHORT-ORG NCIR	Error	Technical	The query message being sent does not specify it is asking the NCIR for information.	Verify RXA-6 is "NCIR" so that the NCIR system knows it is being queried.
QPB	100	Invalid Message: Only one QPD allowed per message.	N/A	Error		Only one patient can be queried per HL7 message.	Verify only one patient QPD is being sent in the query.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
QPB	100	Invalid Message: QPD segment is missing.	N/A	Error		No patient information segment was sent in HL7 message.	Verify a patient QPD segment is being sent in HL7 message.
QPB	101	QPD-2: Query Tag missing.	QPD Z34^Request Immunization History^HL70471 QUERY_TAG	Error		Value is missing in QPD-2.	Verify QPD-2 is being sent so the NCIR system understands message is a query.
QPB	101	QPD-4: PATIENT FIRST NAME IS A JUNK NAME	CLIENT^FIRST^MIDDLE^	Error		Submitted name has matched pre-identified names that are erroneous (baby boy, etc....)	Verify valid name is being used for patient.
QPB	101	QPD-4: PATIENT FIRST NAME REQUIRED	CLIENT^FIRST^MIDDLE^	Error		QPD-4.2 is blank or missing.	Verify patient first name is being sent in QPD-4.2
QPB	101	QPD-4: PATIENT LAST NAME IS A JUNK NAME	CLIENT ^FIRST^MIDDLE^	Error		Submitted name has matched pre-identified names that are erroneous (baby boy, etc....)	Verify valid name is being used for patient.
QPB	101	QPD-4: PATIENT LAST NAME REQUIRED	CLIENT ^FIRST^MIDDLE^	Error		QPD-4.1 is blank or missing.	Verify patient last name is being sent in QPD-4.1
QPB	101	QPD-4: PATIENT NAME REQUIRED	CLIENT ^FIRST^MIDDLE^	Error		QPD-4 is blank or missing.	Verify patient name is being sent in QPD-4.
QPB	101	QPD-6: DOB is mandatory	CLIENT^FIRST^MIDDLE^ M AIDEN^MOTHERS^ 20130315 F	Error		Patient date of birth is missing from QPD-6.	Verify that the patient's date of birth is being sent in QPD-6.
QPB	102	QPD-1 value is invalid	QPD Z34 ^Request Immunization History^CDCPHINVS	Error		HL7 2.5.1 value is missing in QPD-1.	The values "Z34^Request Immunization History^CDCPHINVS" and "Z44^Request Evaluated History and Forecast^CDCPHINVS" are accepted by the NCIR.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
QPB	102	QPD-6: Invalid DOB.	CLIENT^FIRST^MIDDLE^^^^^ M AIDEN^MOTHERS^^^^^ 201303 15 F	Error		Patient date of birth is invalid in QPD-6.	Verify that the patient's date of birth is being sent YYYYMMDD format.
QPB	101	QPD-5: Mother's Maiden Name invalid.	CLIENT^FIRST^MIDDLE^^^^^ M AIDEN^MOTHERS^^^^^	Warning		The value sent in QPD-5 contains invalid characters.	Verify the mother's maiden name is being sent with valid characters.
QPB	102	QPD-10: Only Y or N values accepted. Field is ignored.	1234 MICHIGAN AVE^^RALEIGH^NC^27615^^M^ ^NC091^^ Y 1	Warning		A value other than "Y" or "N" was sent for multiple birth indicator.	Values accepted in QPD-10 are "Y" or "N"
QPB	102	QPD-11 (multiple birth order) ignored when QPD- 10 (multiple birth) is not set to 'Y'	Y 1	Warning		A value was sent for birth order of patient, but patient isn't flagged as a multiple birth (QPD-10)	Verify if the patient is a multiple birth and make appropriate corrections.
QPB	102	QPD-11: Only numeric value accepted. Field is ignored	Y 1	Warning		A non-numeric value was sent in QPD-11.	The NCIR only accepts numeric values in QPD-11.
QPB	102	QPD-3: INVALID PATIENT IDENTIFIER TYPE CODE: "+code	99999999^^^SR^^88888888^^ ^^P ^~77777777^^^PT^	Warning		The value received in QPD-3 is invalid.	The NCIR accepts PT, SR, PI, or MR in QPD-3
QPB	102	QPD-3: INVALID STATE REGISTRY ID - MUST BE NUMERIC, SPECIFIED ID IGNORED: "+chartSR	99999999^^^SR^^88888888^^ ^^P ^~77777777^^^PT^	Warning		The value in QPD-3.1 is invalid.	Value sent in QPD-3.1 must be numeric for "SR"
QPB	102	QPD-7: Invalid value for Patient Sex. Default to U.	PT^ CLIENT^FIRST^MIDDLE^^^^ ^ MAIDEN^MOTHERS^^^^^ 201 30315 F	Warning		Gender value sent in QPD-7 isn't recognized by NCIR.	Values accepts in QPD-7 are "F", "M", and "U"
QPB	102	QPD-3: Patient Identifier type of PI, SR, PT or MR required	99999999^^^SR^^88888888^^ ^^P ^~77777777^^^PT^	Warning		No value indicating identifier type (state record, medical record) was sent in QPD-3.	The NCIR accepts PT, SR, PI, or MR in QPD-3
RCP	100	Invalid Message: Only one RCP allowed per message.	N/A	Error		Multiple RCP segments were encountered in HL7 message.	Only one RCP segment is allowed, verify system isn't sending multiple.

Segment	Error Code	Message	Location	Type	Technical/Clinical	Explanation	How to Fix
RCP	100	Invalid Message: RCP segment before QPD segment.	N/A	Error	Technical	The RCP segment preceded the patient QPD segment.	Verify that the segment follows the formatting presented in the NCLIG
RCP	100	Invalid Message: RCP segment is missing.	N/A	Error	Technical	The RCP segment is missing from the HL7 message.	The NCIR requires an RCP segment to determine amount of data to return.
RCP	101	RCP-1: Query Priority is missing or invalid. Defaulting to I.	RCP I 20^RD R	Warning		Value received in RCP-1 is missing or invalid.	Verify value being sent in RCP-1 is "I" for immediate.
RCP	101	RCP-2 Required field missing or invalid. Defaulting to "+RSP_MAX_CLIENTS+".	RCP I 20^RD&records&HL70126	Warning		The amount of expected returned results was missing or invalid.	Include a numeric value in RCP-2
RCP	101	RCP-2.2: Required field missing or invalid value. Defaulted to RD.	RCP I 20^RD&records&HL70126	Warning		Value for RCP-2.2 is invalid or missing.	NCIR accepts "RD" only.
RCP	101	RCP-2: Required field missing or invalid value. Defaulted to "+RSP_MAX_CLIENTS+"^RD.	RCP I 20^RD&records&HL70126	Warning		Number of client results expected is missing or invalid value in RCP-2.	Verify that a numeric value is being used in RCP-2

NCIR Onboarding Technical Readiness Checklist

Task	Complete	Comments
Interface Readiness		
Implement EHR Vaccine NDC Code Table per NCIR Vaccine code name list https://www.immunize.nc.gov/providers/ncirpromotinginteroperability.htm	<input type="checkbox"/>	
Build interface per specifications provided in North Carolina Local Implementation Guide (NCLIG) <ul style="list-style-type: none"> Implement – <ul style="list-style-type: none"> HL7 Values listed in Appendix A: Code Tables section Client Comments listed in Appendix C section Interface to populate all required data elements listed in Table: Required Data Elements 	<input type="checkbox"/>	
Display error/warning (response) messages to end user in user-friendly format	<input type="checkbox"/>	
EHR Product is certified with NIST – CEHRT 2015 Edition (Recommended)	<input type="checkbox"/>	
Establish connectivity between EHR System and NCIR Training environment	<input type="checkbox"/>	
Testing Validation		
The required data elements contain the proper codes in HL7 2.5.1 R1.5 Implementation guide and release 1.5 addendum Version <ul style="list-style-type: none"> Populated data matches the data provided in test case manual or test data spreadsheet Populated codes match the NCIR specifications 	<input type="checkbox"/>	
EHR System can submit Child / Adult client data for the below scenarios –		
Test Scenario 1: Child Administration	<input type="checkbox"/>	
Test Scenario 2: Adult Administration	<input type="checkbox"/>	
Test Scenario 3: Update to immunization and Responsible party demographic data	<input type="checkbox"/>	
Test Scenario 4: Document Client Comment	<input type="checkbox"/>	
Test Scenario 5: Document Parental Refusal and Religious Exemption	<input type="checkbox"/>	

EHR System is capable of querying for Child / Adult client data for the below scenarios –

Test Scenario 6 : Query for a child	<input type="checkbox"/>	
Test Scenario 7: Query for Adult	<input type="checkbox"/>	
Test Scenario 8: Query for a patient that does not exist in the NCIR	<input type="checkbox"/>	

Table: Required Data Elements

Client Demographics		Vaccine Info	
Client ID	Client Status	Vaccine Administered Product Type – NDC Code and CVX code	Vaccine Funding Source
Client Name	Client Race	Administered Date	Vaccine Volume/Unit
Client DOB	Client Ethnicity	Vaccine Manufacturer	Route of Administration
Client Gender	Client Primary Language	Lot Number	Site of Administration
Client Birth Order and Indicator	Responsible Person Name	Eligibility Info	Administering Provider Location
Client Mother’s Maiden Name	Relationship to Client	VIS Publication and Presented Dates	Presence of Contraindications/Precautions/Allergy
Client Address and County	Primary Language	Vaccine Lot Expiration Date	Observation Date of Contraindications/Precautions/Allergy
Client Address and Phone	Responsible Person Address	Ordering Provider	Exemption (type)
		Vaccine Type – Historical / Live	Refusal details
			Vaccine Adverse Reaction

Appendix A: NCIR/EHR Data Exchange Onboarding

Provider Office Use

Pre-Rollout Checklist

Weekly leading up to Rollout and Day Before:

- Inventory Reconciliation
 - No expired/wasted vaccine in inventory (no pop-ups).
 - All doses administered have been entered.
 - Physical inventory of vaccine completed.
 - Inventory has been reconciled.
- Lot Number Set Up
 - Run inventory report.
 - All lot numbers (public and private) entered into the EHR.
 - Lot numbers, manufacturer, dose size, units, expiration dates, NDC numbers, and HL7 CVX codes reviewed and checked for errors (EHR must match NCIR).
- Clinician List
 - Ensure clinician list names in the NCIR match the EHR information exactly.

Day Before Rollout:

- Determine Cut Off Time
 - Inventory is reconciled.
 - Doses no longer entered in NCIR as of _____(cut- off time/date).
 - Doses not entered are held for testing.

Rollout Day Checklist

Go-Live Day:

EHR Entry Only –

**All immunizations will be entered through the EHR only from this point forward.*

- Transactions Entered Successfully
 - Notify the Regional Immunization Consultant once vaccinations have started (form with at least name and DOB is recommended).
 - Enter transactions into the EHR.
 - Check NCIR to verify that data transferred from the EHR correctly.
 - Use NCIR to print official immunization record (note: the EHR record may be used; however, many schools/colleges require the NCIR record).
 - Run DX Immunization Transaction List/Report numerous times throughout the day and going forward. Note: this report can only be run by an administrator in the NCIR. Any doses that are “OWNED-NON-DEDUCT” (OND) should be corrected and resubmitted. *The most common reasons for OND doses are typos in the lot number, public/private errors and incorrect manufacturer.* Refer to the Troubleshooting Document for specific instructions on resolving OND doses shown on this report.
- Inventory Reconciliation
 - Conduct physical inventory at close of business (*Keep in mind: Doses on the OND list affect NCIR inventory count and could affect future state-supplied vaccine orders*). Repeat daily for 2 – 3 days.
 - Reconcile inventory.
 - Report any identified issues to the Regional Immunization Consultant.
 - After rollout, the transaction report should show “Data Exchange” under the “user” column, not the user’s name. If it does not say “Data Exchange,” then it was entered directly into the NCIR, not the EHR.

Follow-Up Checklist

1-3 Months Post Rollout and Ongoing:

- Inventory Reconciliation
 - Physical inventory completed weekly.
 - Inventory reconciled.
 - Report any identified issues to the Regional Immunization Consultant.
 - Review clinician list and update, as needed. Ensure the names in the EHR match the NCIR exactly. Doses will deduct, but clinician fields will be “unknown” putting your office out of compliance with NC Immunization Rules.
 - Review NCIR Data Exchange Transaction List, Transaction Report and Vaccine Usage Report.

Appendix B: Instructions: Running the Immunization DX Transaction List

Click on “Imm DX Transaction List” located in the “Data Exchange” section of the blue menu in NCIR.

Data Exchange
hedis query
dx err & sum report
dx err & sum status
dx imm transaction list
dx transactions



Enter the Date/or Dates that you want to evaluate (first day of rollout and beyond) and click “View.”

Data Exchange Immunization Transaction List

☒ Immunization Created Date From: To:
☐ Immunization Administered Date From: To:
 Immunization Type: Owned/Non-Deduct

Data Exchange Immunization Transactions for Organization: WILMINGTON HEALTH ACCESS FOR TEENS

Immunization Type	Job ID	Error Reason	Error Value	Site Name	Client ID	Chart Number	Vaccination Date	Create Date	Vaccine	Trade Name	NDC	Lot Number	Funding Source
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If the following pop-up appears, this indicates you have no “Owned Non-Deduct” doses and things are looking good. Just keep checking throughout the day.

ncir.dhhs.state.nc.us says

There is no data that matches the supplied parameters

OK

*If transactions appear in blue under this report, refer to Troubleshooting Document to resolve the issue(s).

Appendix C Troubleshooting – Rollout Day

Bi-Directional Onboarding Common Issues and Solutions

Issue	Reason	Solution
"Owned/Non-Deduct" dose appears in Transaction List with <i>"Lot Number is Invalid"</i> in the ERROR REASON field.	Lot number selected/typed into the EHR was incorrect.	Check that the lot number from your NCIR inventory matches the number listed in the report (as sent by your EHR). Correct and re-submit.
" "	Wrong Funding Source was selected (State/Private) in EHR.	Check that the source listed in the "Funding Source" column matches the inventory containing that lot in NCIR. Correct and re-submit.
" "	Wrong Manufacturer was selected in EHR.	Check that the trade name in the "Trade Name" column matches that lot in your NCIR inventory. Correct and re-submit.
" "	Incorrect vaccine was selected (i.e. "Gardasil" vs. "Gardasil 9" or "VAQTA" vs. "Havrix")	Vaccine must be reordered correctly by the physician. Once completed, the original "Gardasil" must be deleted from the patient record in NCIR via User Interface.
"Owned/Non-Deduct" dose appears in Transaction List with <i>"Manufacturer Id does not match to Trade Name"</i> in the ERROR REASON field.	Wrong Manufacturer was selected in EHR.	Check that the manufacturer in the EHR matches the manufacturer listed for that lot in your NCIR inventory. Correct and re-submit.
"Owned/Non-Deduct" dose appears in Transaction List with <i>"RXA05: CVX Only"</i> in the ERROR REASON field.	Wrong Manufacturer was selected in EHR.	Check that the trade name in the "Trade Name" column matches that lot in your NCIR inventory. Correct and re-submit.
"Owned/Non-Deduct" dose appears in Transaction List with <i>"RXA06: Dose Size"</i> in the ERROR REASON field.	Incorrect dose size was selected in EHR.	Check that dose size selected in EHR matches the dose size recorded in NCIR Inventory.
"Owned/Non-Deduct" dose appears in Transaction List with <i>"RXA07:</i>	Incorrect Unit Value was selected for vaccine dose (example: ml	Correct Unit Value (ex. ML) for that lot number and re-submit.

Unknown or Invalid value provided" in the ERROR REASON field.		
"Owned/Non-Deduct" dose appears in Transaction List with "Vaccine lot expiration date invalid" in the ERROR REASON field.	Vaccine expiration date is missing or in an invalid format.	Correct the expiration date in the EHR and re-submit.
"Owned/Non-Deduct" dose appears in Transaction List with "Quantity on hand for vaccine lot not sufficient to support deduction" in the ERROR REASON field.	This lot was in the NCIR Inventory, but inventory was a zero when this dose was submitted.	Add vaccine in NCIR, change the time of administration by one minute, and re-submit.
"Owned/Non-Deduct" dose appears in Transaction List with "Eligibility required. Immunization processed as owned non-deduct" in the ERROR REASON field.	This dose was submitted without the eligibility field checked.	Add eligibility in EHR and re-submit.
ORDERED BY field or ADMINISTERED BY field says "Unknown" on NCIR Immunization Record	Clinician names do not match.	Check NCIR clinician list and make sure names match in EHR. Correct and re-submit.

** Note - Other reasons for OND include: Demographic information doesn't match, Wrong administration date, Blank field, etc. Please contact the technical team if dose does not appear on NCIR Record or if you have any other questions.